

السؤال الأول

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INTERNATIONAL  
MARKETS:  
Section III

## NEWS SUMMARY

### GENERAL

#### Italian wage pact talks near deadline

Italian unions and employers were last night meeting at the Ministry of Labour in an eleventh-hour bid to reach agreement on reducing labour costs and on the scale of wage indexation system.

There appeared no chance of an agreement being reached by the midnight deadline set by the Government last month. But Labour Minister Vincenzo Scotti said it was likely he would "stop the clock" to let the negotiations continue. Page 3

#### Egypt accused

Israel accused Egypt of violating their peace agreement when Egyptian troops crossed into the demilitarised zone at Taba in Sinai. Page 5

#### Soviet warning

The Soviet Union has threatened to stop negotiations on long-range nuclear weapons if the U.S. goes ahead with deploying medium-range missiles in Europe, the Washington Post reported.

#### Paris bombing

A bomb exploded at the Defence Ministry publications offices in Paris, injuring a passer-by. An anarchist group claimed responsibility.

#### Walesa appeal

Lech Walesa and 13 Solidarity officials appealed to the Polish parliament for the release of seven colleagues.

#### Milan arrests

Police in Milan said they had arrested five suspected members of the Red Brigades and that other arrests were expected soon.

#### Belgian alert

Belgian officials are moving into a radiation-proof fort to coordinate emergency services in case the Soviet satellite Cosmos 1402 crashes in Belgium.

#### Falcon crashes

A U.S. F-16 Falcon jet assigned to the Hahn airbase in West Germany crashed 11 miles from Stuttgart. The pilot ejected safely.

#### Freight sinks

Fifteen crew died and five were missing after a Polish cargo vessel sank off the Spanish island of Ibiza.

#### Snow hits U.S.

Eighteen inches of snow fell in parts of Southwest U.S. while some Northern cities suffered record sub-zero temperatures.

#### Air fare war

Air Canada launched a fare war with cuts of up to 75 per cent on its economy class fares within Canada and to the U.S.

#### Japanese war row

Japanese opposition parties charged that Prime Minister Yasuhiro Nakasone was engaged in a "dangerous plot" with U.S. President Ronald Reagan to drive the Japanese to war again. Page 5

#### Briefly...

The Netherlands says it is ready to open contact with the Palestine Liberation Organisation.  
Sri Lanka's three-month old nationwide state of emergency lapsed.  
Nissan is to sell a car that can be driven by people unable to use their arms.  
West German Chancellor Helmut Kohl is to visit Britain in February.

### BUSINESS

#### German boost to bank liquidity

THE BUNDESBANK, the West German central bank, yesterday took steps to ease its monetary policy by adding DM 4.5bn (\$1.85bn) of permanent liquidity to the banking system. But it disappointed the financial markets by not lowering its Lombard or discount rates. Page 3

GOLD was down \$4.50 to \$492.50 on the London bullion market yesterday. In Frankfurt it fell \$6.25 to \$489.25 and in Zurich by \$5.00 to \$481.50. Page 27

DOLLAR showed further gains in the absence of any reduction in the U.S. discount rate. It finished below its best levels however as funds switched back into D-Marks following the Bundesbank's decision not to cut its rate. In London it closed at DM 2.4230 (from DM 2.4125), FF 6.57 (FF 6.6425), SwFr 1.9775 (SwFr 1.9740) and Y25.25 (Y23.25). Its Bank of England trade-weighted index rose 0.3 to 119.4. Page 32

STERLING fell a further 45 points against the dollar to close at \$1.57, equaling its lowest ever closing in 1976. It also slipped to SwFr 3.1660 (from 3.11) but rose DM 3.9075 (DM 3.88) and FF 39.75 (FF 39.75). It was unchanged against the yen at Y 369.5. Its trade-weighted index rose 0.1 to 82.4. Page 32

LONDON: FT Industrial Ordinary index gained 3.2 points to 624.8. Government Securities showed gains of a little over a quarter of 1 per cent. Page 25

WALL STREET: Dow Jones index closed 2.76 up at 1,070.82. Page 25, 26

TOKYO: Nikkei Dow index fell 45.37 to 7,232.31. Stock exchange index slipped 2.72 to 581.84. Page 25, 26

HONG KONG: Hang Seng index gained 2.02 to 908.55. Page 25, 26

AUSTRALIAN all shares index fell 2.1 to 536.2. Page 25, 26

FRANKFURT: Commerzbank index lost 1.9 to 738.4. Page 25, 26

EEC statistics revealed signs of upturn in France and West Germany amid a 1.5 per cent fall in Community industrial output for 1982.

SPANISH shipbuilders reported a 60.9 per cent drop in orders and warned of short-term collapse. Page 6; Feature Page 13

BRITISH Industry Secretary Patrick Jenkin warned of a protectionist war unless Japan's trade surplus with Europe was corrected. An adviser to West German company Grundig said Japanese Prime Minister Yasuhiro Nakasone's moves to open Japan to imports were negligible. Japanese exports to west were the real issue.

COMPANIES

BRITISH SHIPBUILDERS announced over 2,000 redundancies by the end of March and warned of further possible cuts before the end of the year. Page 7

ALCOA and ALCAN, the North American aluminium producers, reported losses of \$33.66m and \$60m respectively for 1982. Page 15

AIR FRANCE reported losses of FF 620m (\$120m) for 1982 and is counting on a tripling of government support. Page 15

## Reagan may seek 'consumption tax' as part of reform

BY ANATOLE KALETSKY IN WASHINGTON

President Ronald Reagan will propose sweeping long-range reforms for the U.S. tax system in his State of the Union message next week, in addition to shorter-term measures directed specifically at narrowing the next few years' budget deficits.

Mr Martin Feldstein, Chairman of the Council of Economic Advisors, said in a speech on Wednesday night that a generalised consumption tax - which could eventually replace income tax entirely - is one of the main options being considered.

Such a consumption tax, which has been advocated by leading economic theorists in Europe as well as the U.S., would differ radically from existing taxes on sales and value added.

Because it would be levied on individuals, rather than on the retail business where people spend their money, a generalised consumption tax could be designed to maintain one of the main political features of income tax, which increases in line with income. The rich, who spend more of their money annually than the poor, could still be made to pay higher tax rates in proportion to their higher consumption, as they do now on their incomes.

Although Mr Feldstein said that "final decisions have not been made" on the proposal for a consumption tax, he did outline the structure being considered. "Each individual would add up all his cash receipts for the year and then subtract all of his savings, including additions to bank accounts, purchases of stocks and other assets and repayments of loans."

This difference, which would be equal to the individual's total consumption for the year, would then be subject to the new tax.

The new structure would obviously encourage saving and capital formation, since any income set aside and not consumed would be exempted from tax.

Another, less radical, tax reform being considered by the Reagan Administration is the so-called "flat rate" income tax. In its purest form, this would mean abolishing all special tax allowances and imposing a single tax rate probably between 15 and 20 per cent, on all incomes.

This extreme proposal would mean a marked shift in the tax burden onto people with lower incomes and would almost certainly be politically unacceptable.

Washington officials tend to believe that the Buenos Aires Government would not wish to compromise its attempts to establish a "peaceful" international image on the Falklands. Some of them fear, however, that the armed forces, and particularly the navy, might be tempted to independent action.

Mr Bridgman, Defence Correspondent, adds: UK Ministry of Defence officials yesterday discounted suggestions that Argentina had set up military bases in Antarctica.

They noted that military activity was strictly prohibited by the Antarctic Agreement, to which Britain and Argentina are both party (and have both respected so far).

They added that Antarctic bases would give Argentina no more advantages in military action against the Falklands than would existing mainland Argentine bases.

The Ministry re-emphasised yesterday that the 4,000-strong garrison remained on the alert against the possibility of harassment from, or even the very unlikely possibility of re-invasion by, Argentine forces.

CHILE'S two largest industrial conglomerates, the BAC group and the Cruzat-Larrain group, have announced that 12 of their subsidiaries are unable to meet payments due on bank loans and bonds. The shares of the 12 companies have been suspended on the Santiago stock exchange until February 1.

The debts of the companies at November 30 were put at \$1bn, according to the office of the superintendent of the stock exchange, an official of the Finance Ministry.

The suspended companies are: Industrias Coia, Forestal, Aceites y Alcoholes Patria, CPI Compania Teco Industrial, Companias, Industrias, Hoteles del Sol Vina del Mar, Inversiones San Patricio, Inversiones Valle Central, Inversiones Las Nuevas, Sociedad de Inversiones Jose Miguel Carrera, In-

versiones Huelén and Compania Cerveceras Unidas.

The latter company is the country's largest brewer, while six of the companies are involved in real estate and hotel development. The interests of the rest include timber and pulp, and industrial alcohol production.

The two conglomerates were part-owners of three of the five Chilean banks which were placed under government management last week. The Government's take-over of the banks appears to have resulted in a halting of new advances to the 12 companies, which were not thought to be viable by the Government's nominees.

The Cruzat-Larrain and BAC groups were built up by Sr Manuel Cruzat and Sr Javier Vial, two financial entrepreneurs who came to prominence under the Pinochet government, which came to power after the military coup of September 1973.

Like many other Chilean entrepreneurs, they were encouraged to seek dollar loans in the late 1970s and the early 1980s when the government kept the peso pegged at a fixed exchange rate against the dollar. Many observers felt this policy left the peso greatly overvalued.

A succession of major devaluations last year, combined with a severe contraction of the economy, created difficulties for those who had loans denominated in dollars and income in pesos.

There was also much speculation in Santiago last night about the fate of Chilean mutual funds, which have attracted the savings of some 140,000 Chilean small savers.

## British budget set for March 15

By Max Wilkinson in London

SIR GEOFFREY HOWE, the British Chancellor of the Exchequer, will present his budget on Tuesday March 15, the Government announced yesterday, amid gathering gloom about the prospects for economic recovery in the UK and in the world at large.

But Sir Geoffrey is unlikely to respond to the gloomy signs with any major deflationary measures. Instead, he is likely to believe that the scope for tax-cutting has been shortened. This is because lower levels of activity will tend to reduce Government revenue and to increase expenditures on unemployment and other benefits.

The weakening of oil revenues will also tend to depress Government revenues, although the associated depreciation of sterling since November will raise the sterling value of oil taxes.

The fall in the value of sterling will more generally be seen as a constraint on the Chancellor's options, since it will tend to slacken "monetary conditions" in the economy.

The Chancellor may consider that industry has already received considerable help from the fall in the exchange rate - at the price of a somewhat higher rate of price inflation later in the year. This may incline him more towards cutting income tax allowances, or the real value of excise duties, rather than making a further cut in the employers' National Insurance Surcharge.

The overall scope for tax cuts appears now to have shrunk somewhat from the £2bn (\$3.1bn) which was widely thought would be available, if public sector borrowing were held at £2bn in 1983-84.

In November, the Treasury's Autumn Statement forecast that there would be scope for £1bn "fiscal adjustment" for a PSBR of £1bn. The Chancellor has given strong indication that he does not intend a major relaxation of the borrowing target, although some adjustment is possible.

All the indications at present are therefore that the total tax reductions will be around £1.5bn, with £2bn as a top figure.

Last November, the Treasury was hoping that the long-delayed economic revival would start to become evident this spring, but there are few signs of improvement on the present economic horizon.

Recovery slackens, Page 6

## New bid to sell Europe on zero option

BY REGINALD DALE IN WASHINGTON

PRESIDENT Ronald Reagan has ordered stepped up efforts to persuade West Europeans that his nuclear arms control policies are both valid and well-intentioned, in the face of the recent series of "peace initiatives" by the Soviet Union.

Mr Reagan's new public relations drive was decided after Mr George Shultz, the Secretary of State, told him that U.S. policies had been misunderstood and poorly managed in the countries that are supposed to deploy 572 of new intermediate-range nuclear missiles under a 1979 Nato agreement - the UK, West Germany, Italy, Belgium and the Netherlands.

Acknowledging a problem in "public diplomacy," Mr Reagan has asked Mr William Clark, his National Security Adviser, to chair a cabinet-level committee to promote American diplomatic, military and arms control policies in general.

Mr Peter Dailey, Mr Reagan's 1980 advertising campaign manager, and now ambassador to Ireland, is to head a second group concentrating more specifically on countering mounting opposition to the deployment of the new American cruise and Pershing missiles in Europe if arms talks with the Soviet Union do not make substantial progress by the end of the year.

Mr Reagan yesterday repeated his determination to stick to his original "zero option" proposal, under which the U.S. would forego the weapons' deployment altogether if the Soviet Union agreed to dismantle all the 600 or so missiles already in its medium-range arsenal. He added, however, that the U.S. would "listen to and negotiate any fair offer."

This will be the position that Mr Paul Nitze, the chief U.S. negotiator on intermediate nuclear forces (INF) will take to Geneva, after visits to Brussels and Bonn, when the talks resume on January 27. This is despite growing European interest in a compromise under which both sides would limit, rather than totally renounce the missiles.

In what was seen here as an important policy statement earlier this week, Mrs Margaret Thatcher, the British Prime Minister, told the House of Commons that the "zero option" remained the best solution. She suggested, however, that if this could not be achieved, there could be a compromise based on "equality" of the weapons on both sides - a view that has recently been canvassed by other West European leaders.

Mr Nitze, who last year tentatively explored a solution along these lines, continued on Page 14

Mitterrand urges firm stance, Page 3

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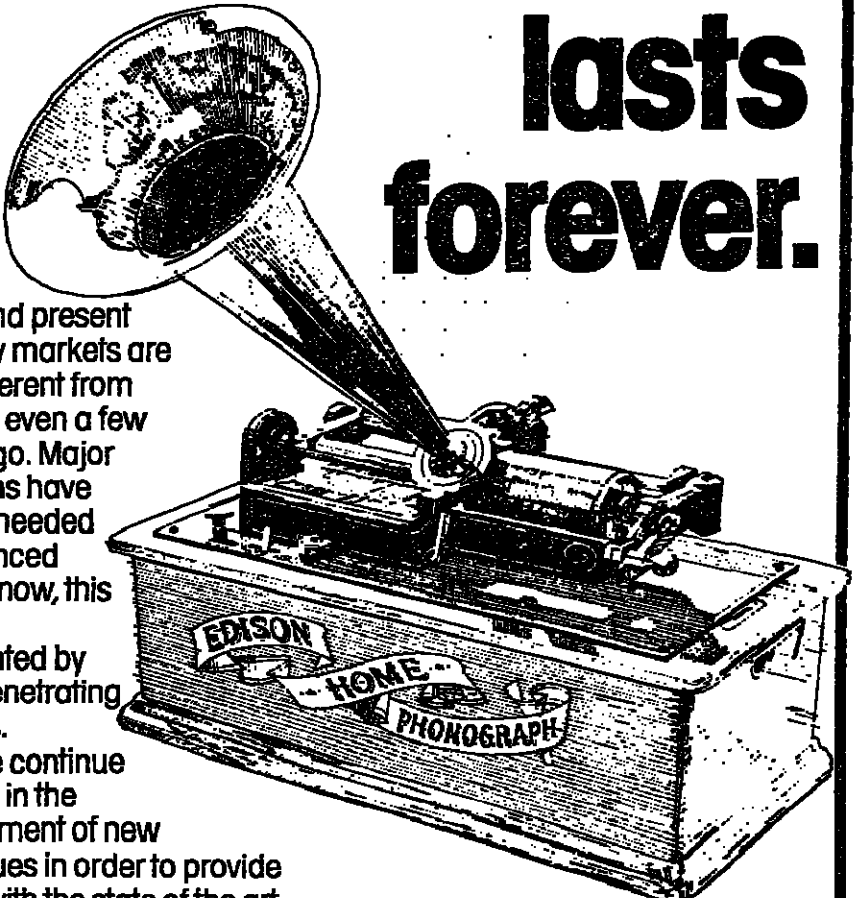
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## EUROPEAN NEWS

## Bonn forecasts economic recovery this year

BY JONATHAN CARR IN BONN

THE West German Government says it expects a clear economic upswing to emerge this year, accompanied by falling inflation and a current account surplus. The main blot on the picture will be an increase in unemployment to an average 2.35m, although Bonn thinks the rise will be less pronounced in the second half.

These projections are contained in the Government's economic report for 1983, due to be formally approved by the Cabinet next week and of which a text became available yesterday.

Unfortunately for the centre-right coalition of Chancellor Helmut Kohl, few of the positive economic signs are likely to emerge clearly before

the general election on March 6. None the less, voters are being given a signal that better times are on the way after two successive years in which gross national product has contracted in real terms (after allowing for inflation).

At first glance, the Government's forecast that there will be "about zero" GNP growth on average in real terms this year does not look like much of an advance. But after a cut of 1.2 per cent in real GNP last year, with a deteriorating performance in the second half, the "zero" projection in fact implies a very marked economic turn-around.

Several of the country's independent economic research

WEST GERMAN ECONOMIC DEVELOPMENT		
	1982*	1983†
	(percentage changes)	
GNP (real terms)	-1.2	approx 0
Jobs rate	-7.5	approx 9.5
Fixed asset investment (nominal)	-3.8	3.5 to 4.5
Consumer prices	4.1	approx 3.5
Gross pay per employee	31.8	34 to 40
External component (DMbn)		

Source: Government economic report for 1983  
\* Preliminary official figures. † Government projections. ‡ Unemployed as percentage of dependent labour force. § Balance of goods and services transactions with rest of world.

institutes have already made clear they are less optimistic, saying they expect a fall in real GNP for the third year in a row.

However, the Government argues that while foreign demand will be weak this year, the domestic market should

pick up thanks to an upswing in the key building sector, and a general drop in interest rates and inflation.

The boost in domestic demand is not expected to bring a sharp increase in imports this year, so that the trend will be towards a bigger

visible trade surplus. The current account (visible trade, services and transfer payments together) could register a surplus of about DM 8bn (£2.1bn) this year, after a rough balance in 1982 and a deficit of DM 17bn (£4.47bn) in 1981.

One of the big problems for the Government is that it has to indicate what it expects the 1983 increase in wages and salaries to be before the annual bargaining between trade unions and employers is over.

However, with its projections of an average 4 per cent inflation rate, and of a rise of 3.5 per cent in gross wages, Bonn indicates that it thinks employees will be ready to take further real cut in earnings for another year.

## Dutch company tax cuts unveiled today

BY WALTER ELLIS IN AMSTERDAM

THE DUTCH Government announces details today of its plans to reduce company tax in the Netherlands by as much as F1 7bn (£1.68bn) between now and 1986. Mr Gijb van Ardenne, the Economics Minister, intends reducing industry's tax burden for the 1982 and 1983 financial years by a total of F1 1bn. Savings over the next three years would come to between F1 4.5bn and F1 6bn.

At the same time, unemployment is expected to fall from 12 per cent in the past two years and a record number of companies went bankrupt in 1982. At the same time, unemployment is expected to fall from 12 per cent in the past two years and a record number of companies went bankrupt in 1982.

Mr van Ardenne's proposal is for a reduction in the level of tax paid on capital assets of tax paid on capital assets (goods in store), first by 2.5 per cent, then by 3.25 per cent and, finally, by 4 per cent.

## Vatican diverts bishops' N-missile

By James Burton in Rome

ROMAN CATHOLIC bishops in the U.S. are likely to modify a pastoral letter condemning many aspects of U.S. nuclear and disarmament strategy as a result of a meeting held at the Vatican earlier this week.

Cardinal Agostino Casaroli, the Vatican Secretary of State, presided over the encounter between two U.S. bishops, including Archbishop Joseph Bernardini of Chicago, and bishops from six European countries, including Britain, West Germany, France and Italy.

The aim of the meeting was to discuss the draft of the pastoral letter which was drawn up last year at the U.S. bishops' conference. The publication of an earlier draft of the letter last November severely annoyed the Reagan Administration. It condemned U.S. first-strike policies as immoral, called for a halt to a further arms build-up, condemned the concept of limited nuclear war and said that U.S. policy on nuclear deterrence was morally unsatisfactory.

The final draft, to be approved next May, will not be a joint document fully reflecting European views, but will be revised in order that Catholic bishops on each side of the Atlantic should not move too far apart on the issue.

According to Archbishop Bernardini, more attention will be paid to scriptural teachings on non-violence and on the concept of "just war" and a distinction will be drawn between the different political systems of the U.S. and the Soviet Union.

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## Gromyko stirs up West German political establishment

BY JAMES BUCHAN IN BONN

MR ANDREI GROMYKO made a joke. It was not a good joke but it came as a welcome relief at Tuesday's long news conference in Bonn, where the 73-year-old survivor of Yalta resolutely remained standing, effortlessly parrying predictable questions from East European correspondents.

A British journalist intervened and impatiently posed a question in three parts. "That," said the Soviet Foreign Minister, "is a question with three independently targetable warheads."

If the city of Bonn managed a weak smile at this word-play on the SS-20 nuclear missile, which has dominated West German thinking since former Chancellor Helmut Schmidt first warned of this threat in 1977, Mr Gromyko must also have been smiling as he left West Germany. His long visit, with its mixture of veiled threat and tiny signs of flexibility, has left the Bonn political establishment shooting at least three different targets.

Officials of Chancellor Helmut

Kohl's conservative-liberal Government made clear they had misgivings about the visit so near to the March 6 general election, in which Soviet intermediate-range missiles and whether they are to be matched by new U.S. missiles from this autumn are shaping up as the dominant issues. In fact, the officials said they were pleased Mr Gromyko did not delve deeper into the election campaign. "We are not for or against one or other party," he said on Tuesday.

However, they see Moscow employing a classic double strategy in West Germany towards its larger goal of preventing the deployment of the missiles and, eventually, dismantling the U.S. nuclear presence in Europe.

Last week, Herr Hans-Jochen Vogel, the Social Democrat leader, had an unusually generous audience in Moscow with Mr Yuri Andropov, the Soviet party secretary. He returned with Soviet "concessions"—which, however, Government officials said,



Mr Gromyko... classic double strategy.

proved considerably less far-reaching in formal talks with Mr Gromyko. But the implications for the electorate last week was that

a Social Democrat Chancellor, a Willy Brandt, or a Helmut Schmidt or a Hans-Jochen Vogel, will always have an ear in Moscow. Yet Mr Gromyko let slip just enough in Bonn to keep relations open with the Government parties which are still ahead in the public opinion polls.

The polls which the parties are watching with equal interest, however, are those that show a majority of the electorate against the deployment of 108 Pershing 2 and 96 ground-launched cruise missiles in West Germany, envisaged as a worst case by NATO's "double decision" of December 1979.

In talks with Mr Gromyko on Tuesday morning, Herr Kohl was said to have stuck stolidly to the "zero-option," outlined by President Ronald Reagan in November 1981. This calls for the Soviet Union to dismantle its entire land-based intermediate-range missile force directed at Europe as a price for NATO foregoing deployment.

Officials of his party have privately stated that the Government must stick to the "maximum" position in public, whatever its feelings about its chances of achievement, in order to keep up pressure in Moscow and offer a united West German and Western front.

But Herr Kohl's garrison, already disaffected before the parley with Mr Gromyko, is close to open mutiny. Herr Franz-Josef Strauss, head of the Christian Social Union in alliance with Herr Kohl, now says he always had doubts about the zero-option.

In Washington, some respected voices from the arms control establishment, including Mr Paul Nitze, the chief U.S. negotiator in the intermediate-range arms, have suggested solutions other than the zero-option.

Even the Chancellor's Christian Democrats seem to be wavering somewhat. The text now heard most often is not that of the zero-option but of the double decision itself, which says that NATO will look at its armament needs this autumn "in the light of concrete results" in the U.S.-Soviet talks on intermediate-range nuclear

forces in Geneva.

Herr Dieter Stolze, the Government's spokesman, said on Wednesday that these lines should be hung in the Government press conference hall so he would not need to quote them. But it was new that he quoted them so avidly.

Herr Kohl's chief problem is with Herr Hans-Jochen Vogel, the Foreign Minister, and his Free Democrats. Herr Genscher, who conducted the bulk of the talks with Mr Gromyko, had been causing worry in allied capitals by suggesting that an "interim solution" quite in line with the double decision should be considered "that implies a reduction of the Soviet missiles in place and a reduction of the U.S. missiles to be stationed."

The Chancellor pulled Herr Genscher into line last week, but the dread sound of interim solution continued to be heard from the party podium at the weekend and from Herr Genscher's impulsive lieutenant, Herr Juergen Moellmann, minister of state at the Foreign Ministry. Herr Genscher is to

visit Moscow next month.

Herr Vogel is extremely dubious about the zero-option, tends to talk of Soviet and U.S. missiles as equal evils and has suggested that signs of life at Geneva should allow a delay in stationing the new U.S. missiles.

Mr Gromyko's failure to offer much in substantive talks rubbed some of the gloss off Herr Vogel's Moscow visit, and he is now being tarred by the Christian Democrats and the conservative Die Welt newspaper as "Andropov's candidate." Yet, as one official put it: "The Moscow visit and the Welt headline would have destroyed Vogel in the 1950s. Not nowadays."

There remain "the Greens," who categorically reject the stationing of new U.S. missiles and are hovering around 6 per cent in the opinion polls. The prospect that troubles the West German markets is that the Greens will enter Parliament for the first time on March 6, and prove ready to vote with a minority Social Democrat government on certain issues but hamstringing it on others.

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	Quarter ended 31.12.1982	Six months to 30.9.1982	31.12.1982
<b>OPERATING RESULTS</b>			
Underground			
One milled - tons	68 421	45 372	113 793
Gold recovered - kilograms	183.5	132.7	276.2
Yield - grams per ton milled	2.68	2.92	2.78
Revenue - per ton milled	R41.12	R42.68	R41.70
Working costs - per ton milled	R36.98	R48.05	R41.39
Working profit/(loss) - per ton milled	R4.14	(R5.47)	R0.31
Gold price received - per kilogram	R15 327	R14 562	R15 006
Working costs - per kilogram	R13 786	R16 431	R14 895
Surface material			
Sand treated - tons	14 840	2 662	17 502
Gold recovered - kilograms	7.9	1.8	9.8
Yield - grams per ton milled	0.53	0.70	0.56

<b>FINANCIAL RESULTS (R000)</b>			
Underground			
Revenue from gold and silver	2 813	1 933	4 746
Working costs	(2 517)	(2 180)	(4 711)
Working profit/(loss)	296	(247)	35
Surface material			
Profit from sands	34	4	38
Sundry revenue	166	139	305
Operating profit/(loss)	496	(104)	378
Net interest received	117	129	246
Net profit/(loss)	613	25	624
Capital expenditure	761	562	1 323
Available profit/(loss)	(148)	(537)	(1 019)

<b>DEVELOPMENT</b>			
North-East Prospect Shaft - Black Reef			
Advanced - metres	518	634	1 152
Sampled - metres	412	303	715
Payable - metres	20	63	83
Channel width - centimetres	25	12	15
Average value - grams per ton	133.6	183.3	172.0
Centimetre grams per ton	3 389	2 319	2 541
No 14 Shaft - Kimberley Reef			
Advanced - metres	472	130	602
Sampled - metres	256	53	309
Payable - metres	35	41	76
Channel width - centimetres	214	134	168
Average value - grams per ton	6.3	5.3	5.8
Centimetre grams per ton	1 341	713	980

In addition No 14 Shaft was deepened by 13 metres (18 metres) and the shaft ore passes were advanced 45 metres (nil) during the quarter.

**MINING OPERATIONS**  
Underground unit working costs showed a marked decrease as a result of the higher throughput of underground ore, in spite of a significant increase in the rate of development at No 14 Shaft. The reduction in the yield from underground sources was mainly as a result of the inability to segregate the development and stopping ore at No 14 Shaft until the new shaft ore passes are operational. The throughput of sands treated increased during the quarter. The gold recovered therefrom will be dependent on sources available from time to time.

**CAPITAL EXPENDITURE**  
During the quarter the second upgraded primary mill was commissioned, and work was recommenced on the crushed ore storage facility at the gold plant. The total cost of operating the North-East Prospect Shaft was charged to capital expenditure, offset only by gold recovered from development ore.

The unexpended balance of expenditure authorised by the Board at 31 December 1982 was R1 500 000 of which some R1 400 000 is projected to January 1983, to be spent mainly on the expansion and upgrading of facilities at the gold plant and No 14 Shaft and exploration development at North-East Prospect Shaft.

T. L. GIBBS  
L. C. POURGOLIS | Directors

21 January 1983

## SOUTH ROODEPOORT MAIN REEF AREAS LIMITED

(Incorporated in the Republic of South Africa)

Issued share capital: R5 600 482  
Divided into: 1 162 715 ordinary shares of 56 cents each  
8 438 145 10% automatically convertible preference shares of 56 cents each

	Quarter ended 31.12.1982	Six months to 30.9.1982	31.12.1982
<b>OPERATING RESULTS</b>			
One milled - tons	39 321	34 797	74 118
Gold recovered - kilograms	146.9	126.2	273.1
Yield - grams per ton milled	3.74	3.63	3.68
Revenue - per ton milled	R57.42	R53.28	R55.48
Working costs - per ton milled	R56.06	R54.08	R54.58
Working profit/(loss) - per ton milled	R1.36	(R0.79)	R0.89
Gold price received - per kilogram	R15 381	R14 682	R15 062
Working costs - per kilogram	R14 748	R14 905	R14 821

<b>FINANCIAL RESULTS (R000)</b>			
Revenue from gold and silver	2 288	1 854	4 112
Working costs	(2 166)	(1 881)	(4 046)
Working profit/(loss)	122	(27)	66
Sundry revenue	54	58	112
Operating profit/(loss)	176	31	178
Net interest received	76	78	151
Net profit/(loss)	252	109	329
Capital expenditure	250	93	343
Available profit/(loss)	(98)	13	(14)

Included in working costs is an amount of R134 000 (R80 000) in respect of plant refurbishment and other non-recurrent costs which are not related to current operations.

**PRODUCTION**  
Stopping operations commenced during the quarter in the new VCR area, south-west of Gault Shaft, resulting in an increase in production. Unit working costs increased largely as a result of the increased amount of development charged against current mining operations.

<b>DEVELOPMENT</b>			
Ventersdorp Contact Reef			
Advanced - metres	770	604	1 374
Sampled - metres	144	198	342
Payable - metres	62	86	138
Channel width - centimetres	48	76	122
Average value - grams per ton	14.3	19.6	17.4
Centimetre grams per ton	983	1 217	1 129

<b>Kimberley Reef</b>			
Advanced - metres	362	473	834
Sampled - metres	184	122	306
Payable - metres	54	22	76
Channel width - centimetres	226	149	203
Average value - grams per ton	7.4	11.8	8.4
Centimetre grams per ton	1 670	1 763	1 897

**DEVELOPMENT**  
The total amount of development increased marginally to 1 132 metres (1 077 metres). A raise connection on the Kimberley Reef between 10 level and 6 level was completed during the quarter, but the major development effort was on the VCR horizon in the new area, south-west of Gault Shaft, and at Saron Shaft.

Development on 2 and 6 levels towards the promising Kimberley Reef area, east of Gault Shaft commenced in the latter part of the quarter.

**CAPITAL EXPENDITURE**  
The increase in capital expenditure for the quarter was largely due to the purchase of stores and equipment necessary to commence the development programme towards the new Kimberley Reef area east of Gault Shaft. The balance of the capital expenditure was incurred mainly in respect of development and exploratory drilling south-west of Gault Shaft and the equipping of the raise borehole as a second outlet and ventilation way.

The unexpended balance of expenditure authorised by the Board at 31 December 1982 was R750 000 to be incurred mainly in developing the Kimberley Reef block east of Gault Shaft.

C. G. FERREIRA  
L. C. POURGOLIS | Directors

21 January 1983

## Southvaal Holdings Limited

(Incorporated in the Republic of South Africa)

## PRELIMINARY PROFIT ANNOUNCEMENT AND NOTICE OF FINAL DIVIDEND FOR THE FINANCIAL YEAR ENDED DECEMBER 31 1982

Financial Results  
Subject to final audit, the following are the results of the company for the year ended December 31 1982:

	1982 R000	1981 R000
Royalties received from Vaal Reefs Exploration and Mining Company Limited	157 029	158 152
Interest received	4 259	3 685
	161 288	161 837
Deduct:		
Administration and other expenses	1 979	996
Profit before taxation	159 309	160 841
Deduct:		
Taxation	73 180	67 743
Profit after taxation	86 129	93 098
Transfer to general reserve		680
	86 129	93 778
Dividends - No. 11 (interim)	31 200	41 600
- No. 12 (final)	54 900	50 700
	329	105
Retained profit brought forward	2 512	2 040
Retained profit - December 31 1982	2 941	2 512
Earnings per share - cents	331.3	358.1
Dividends per share - cents	339	355
Number of shares in issue	26 000 000	26 000 000

**Declaration of Dividend No. 12**  
On January 20 1983 dividend No. 12 of 210 cents a share, being the final dividend in respect of the year ended December 31 1982 (195 cents), was declared in South African currency, payable on March 18 1983 to members registered in the books of the company at the close of business on February 18 1983.

The transfer registers and registers of members will be closed from February 19 to March 4 1983, both days inclusive, and warrants will be posted from the Johannesburg and United Kingdom offices of the transfer secretaries on or about March 17 1983. Registered members paid from the United Kingdom will receive the United Kingdom currency equivalent on February 21 1983 of the rand value of their dividends (less appropriate taxes). Any such members may, however, elect to be paid in South African currency, provided that the request is received at the offices of the transfer secretaries in Johannesburg or in the United Kingdom on or before February 18 1983.

The effective rate of non-resident shareholders' tax is 15 per cent.

The dividend is payable subject to conditions which can be inspected at the head and London offices of the company and also at the offices of the company's transfer secretaries in Johannesburg and the United Kingdom.

**Dividends**  
Details of the dividends declared in respect of the year ended December 31 1982 are as follows:

	Dividend No. 11 (Interim)	Dividend No. 12 (Final)
--	------------------------------	----------------------------

Declared ..... July 22 1982 ..... January 20 1983

Per share of the company ..... 150 cents ..... 210 cents

Payable to members registered ..... August 13 1982 ..... February 18 1983

Payment date ..... September 10 1982 ..... March 18 1983

**Operations at the Vaal Reefs South Lease area**  
Copies of the quarterly report of Vaal Reefs Exploration and Mining Company Limited, which gives details of the operations in that company's South Lease area, are available on request from the offices of the company's transfer secretaries.

By order of the board  
ANGLO AMERICAN CORPORATION OF SOUTH AFRICA LIMITED  
Secretary

per: R. S. Edmunds  
Divisional Secretary

Office of the United Kingdom Transfer Secretaries:  
Charter Consolidated P.L.C.  
P.O. Box 102, Charter House  
Park Street, Ashford  
Kent TN34 8EQ

Head Office:  
44 Main Street  
Johannesburg 2001  
(P.O. Box 61587)  
Marshalltown 2107

London Office  
40 Holborn Viaduct  
London EC1A 1AJ

Johannesburg  
January 21 1983

Copies of this announcement are being posted to all members at their registered addresses.

## Mitterrand urges firm missile stance

However, M Mitterrand's special emphasis on defence and security matters was widely taken here as a sign of concern about Bonn's future course after the March 6 general election.

The SPD, in turn, praised Mitterrand's comments about the need for a balance of power, but added it could not be denied that French nuclear forces

"Please think this over," he told the assembled parliamentarians "that this (French) nuclear force increases the uncertainty for a potential

European Monetary System developed as part of a return toward more stable world currencies—but did not say how this should be achieved.

One of the Commission's main concerns is that, the new system's functions are not clearly defined in conformity with EEC law. This might undermine the measures adopted by the EEC member-states to prevent an outbreak of further "wild" diseases.

It is feared that with half the West German steel workforce on short time, the need to cut capacity will fall particularly hard on Hoesch and its base at Dortmund in the eastern Ruhr.

Herr Hans-Jochen Vogel, the Social Democrat candidate for the March federal elections, said this week that nationalisation could not be excluded as a last resort to prevent a "catastrophe" in the steel sector.

M Jacques Delors, Finance Minister, on Wednesday denied that the government had any plans to bring in a further

Last year, France achieved only a FFr 8bn surplus on the "services" account as compared with FFr 32bn in 1981 and FFr 37bn in 1980. An important element in this decline has been the contraction of the

M Michel Jobert, Minister of External Trade, said yesterday that the current account deficit was "much more preoccupying" than the trade deficit. He left little doubt that the

it, he said that it was up to Count Otto Lambsdorff, West German Finance Minister, to justify these. Count Lambsdorff has launched several strong attacks against French protectionism.

Yesterday, Confindustria, the employers' association, agreed to continue talking, though it said its negotiators have been given a "very narrow" man-

The Garda's previously high reputation may be the most serious casualty of the scandal but it is known, for example, that the Royal Ulster Constabulary has become concerned at evidence of political tensions

At the two-day talks in London, Romania told its bank creditors it was asking Western governments to reschedule some of its \$1.5bn foreign debt. The amount plus should also be similarly large as last year's \$1.5bn, according to current Romanian estimates.

Romania is expecting its current account balance of payments with the West to be in surplus this year by nearly \$70m compared with a surplus of \$655m in 1982. Its trade sur-

There is some surprise in Dublin that any warrant might have been signed to tap the

The appointment of Admiral Liberal, 62, disclosed after a midweek cabinet meeting, follows indications that Sr Felipe Gonzalez's Government will be using defence interests in the south as a bargaining counter in its current reappraisal of Spain's presence in Nato.

Military officials who favour Spain's continued presence in the zone consider that Madrid should seek a separate command within the alliance covering all part of the zone.

Admiral Liberal, who was a secretary of State at the Defence Ministry before receiving the Mediterranean command, was close to the negotia-

claims to the two Spanish military settlements, with more force in a move that would mirror Spain's interest in settling the Gibraltar dispute. Gibraltar, defence guarantees for the enclaves, and a separate Spanish command within the alliance are the chief elements in the reappraisal of Spain's continued membership of Nato.

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## AMERICAN NEWS

## HUMAN RIGHTS RECORD 'APPALLING'

## El Salvador poses dilemma for U.S.

A GREEN hut behind the offices of the Archbishop of San Salvador, from where the country's human rights commission receives daily complaints of abuses and atrocities is today set to be at the centre of the Reagan Administration's controversial policy towards the war-torn central American republic.

Washington is due to certify to the U.S. Congress, as it has to do every six months, whether progress is being made in improving human rights there. The "certificate" that progress has taken place is needed to allow the U.S. Administration to continue supplying massive economic and military aid to the Conservative Government of President Alvaro Magaña, which is fighting against left-wing guerrillas.

Total aid this year for the coffee-producing country of 5m people the size of Wales, is estimated at \$237m (£152m). El Salvador is now the U.S.'s third largest recipient of aid. In the past week, El Salvador has been deluged with visits by U.S. Congressmen, lawyers, doctors, trade unionists, and even the boy scouts' movement who, largely critical of their own government's policy, have been scrutinising the country's human rights record. Their general verdict is that the record is still appalling.

The issue has become a major thorn in the flesh of the U.S. Administration, which is being severely criticised by liberals at home and abroad for contributing to a staggering loss of life by supplying arms. The commission claims, mainly on the basis of eye witness accounts, that since the October 1979 reformist coup, which overthrew the military rule of Gen Carlos Humberto

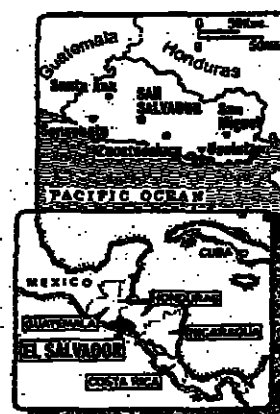
Romero and sparked off an intense power struggle, 38,000 people not directly involved in the fighting have been murdered by the security forces and right-wing death squads. A further 3,000 people have disappeared and are presumed dead. Several thousand more soldiers and guerrillas were killed in combat.

Washington is determined to hold the line against what it views as a Communist threat in its backyard even if it means effectively sanctioning gross human rights abuses in the name of anti-Communism. Every day, people arrive pathetically at the commission's headquarters to report the murder or the disappearance of a member of their family.

"Mr Reagan is supporting genocide," said a young pregnant mother at the commission, calmly relating how her husband was taken away in the early hours of the morning by "armed civilians, the euphemism for the death squads."

Another woman looked through the commission's book of gruesome photographs of mutilated bodies, often found on rubbish tips, to see if she could identify her lost husband. As far as numbers of deaths are concerned, there has been an improvement in the human rights situation over the past year, since "only" 5,840 people, according to the commission, were murdered in 1982 compared to almost 14,000 in 1981. But these figures, emphasised Mr Ricardo Ureña, the Vice-General of San Salvador and an open critic of the Government, have to be treated with caution.

"So many people have now been killed that there are less candidates," he said. "But not one single member



and with no field hospitals, they have to fight for their lives against well-prepared guerrillas. "When the troops go into a village in guerrilla territory they don't knock on the door of a hut. They just throw a grenade through the window and if a child gets killed that's bad luck," said a European military attaché.

Troops have been horribly mutilated after stepping on mines. Many have died to death in the journey back to the military hospital in San Salvador, the only one in the country.

Officers feel that the controversy over the human rights certificate is unfair since it is putting them under the spotlight and demoralising them, and not the guerrillas. However, there is little evidence to suggest that the rebels have committed widespread abuses.

The problem facing Washington was poignantly expressed in an acrimonious debate between one of the delegations visiting El Salvador and U.S. embassy staff, who were questioned about the death of several U.S. citizens.

After hearing from a senior diplomat that there was sufficient evidence to bring to trial two soldiers for allegedly shooting a U.S. tourist in the back at point-blank range but that no case had been presented by the military authorities, a stupefied member of the delegation asked: "Do you mean to say that we are arming an army which is killing innocent people and we are powerless to do anything?"

The diplomat replied that this conclusion could be drawn, but that Washington was doing everything in its power to make the army improve the situation.

## IDB expects to agree \$13bn programme

BY HUGH O'SHAUGHNESSY, LATIN AMERICA CORRESPONDENT

A \$13bn (£8.3bn) LENDING programme for the next five years is expected to be agreed by the governors of the Inter-American Development Bank (IDB) at a meeting in Paris on February 3 and 4 and formalised at the bank's annual meeting in Panama City at the end of March.

The programme, much larger than originally wished by the U.S. government, was agreed in principle at a working meeting which took place in Barbados last week. The programme will have to be endorsed by the U.S. Congress, a process

which officials fear may take the greater part of this year. As on early occasions, the IDB is running low of funds which it is able to commit to new borrowers and may have to suspend new commitments at mid-year. It is, however, expected to continue with disbursements of loans already agreed and to give provisional commitments to advances, conditional on U.S. congressional approval and the receipt of funds from the U.S. Treasury.

According to bankers, Britain was at the centre of a fierce disagreement in Barbados over the subscription of new capital by the non-regional members of the bank—which include Western European countries, Japan and Israel to the bank's Fund for Special Operations (FSO). The FSO is the bank's soft-loan lending operation.

Britain, it appears, wants to make further cuts to the amount of concessional finance subscribed by the non-regional members to the FSO. Under existing plans Britain's contribution to the FSO was to fall from \$72m to \$29.7m. Whitehall wants this sum further reduced to \$10.9m.

The British move is said to have been badly received by the Latin American members and Latin American relations with Britain, already strained by the Falklands war, took a further turn for the worse. "The British attitude was surprising given the British government's expressed intention of trying to strengthen relations with Latin America," commented one banker.

Officials representing non-regional members of the bank yesterday pointed to increasing unrest among them over the fact that non-regional governments had been expected in the past to provide 30 per cent of the soft loan capital of the FSO, while exercising only 8 per cent of the voting rights. Britain, it was said, had not taken the lead in an argument which involved many other countries of Europe.



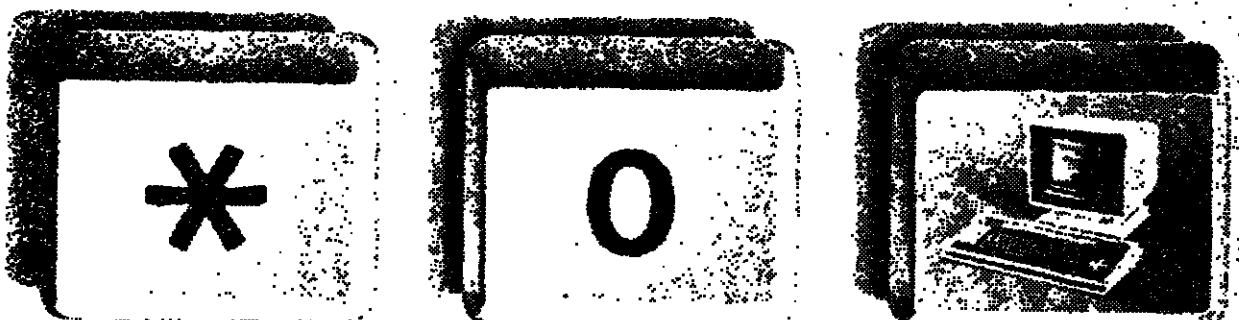
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## Nakasone interview starts Japanese defence storm

BY JUREK MARTIN IN TOKYO

A STORM has arisen over Mr Yasuhiro Nakasone's, the Japanese Prime Minister, toughly-worded interview with the Washington Post, in which he implied a greatly enhanced Japanese defence role against potential Soviet aggression.

Japanese Foreign Ministry officials, echoing the comments of those travelling with the Prime Minister, suggested that Mr Nakasone had either been misquoted or quoted out of context in the interview, given in Washington on Tuesday, before his first session with President Reagan.

Opposition political parties, led by the Japanese Socialist Party, charged that Mr Nakasone was engaged in a "dangerous plot" with President Reagan designed to drive the Japanese people to war again.

Komeito, the next largest opposition party behind the JSP, suggested the Washington talks had more serious implications than those in 1963, when President Reagan and former Prime Minister, Mr Zenko Suzuki, when the word "alliance" with its military connotations, was first used to describe U.S.-Japanese relations. Defence is usually one of the

most sensitive political issues in modern Japan. Mr Nakasone himself has long been an advocate of rewriting Japan's 36-year-old "peace" constitution, denying the state the right of belligerency. He believes the constitution should recognise what he sees as the current realities of the need for an "independent" defence capability, which meshes with U.S. regional security policy.

The process of rewriting the constitution, which would require considerable political consensus in the country, has not started. But the nature of Mr Nakasone's rhetoric in Washington, with references to Japan being "an unsinkable aircraft carrier" against invasion by (Soviet) Backfire bombers, and possessing sea defences to block the passage of Soviet submarines and ships over "several hundred miles," certainly appears to force the issue out into the open.

Somewhat defensively, Foreign Ministry officials have suggested that Mr Nakasone was only talking about hypothetical wartime emergency conditions.

This is not the interpretation being put on his comments by critics who say Japan does not

have the capability to stop Backfire bombers.

Government officials concede this is the case. Certainly the F-15 fighters that Japan is now building under licence are not being produced in sufficient numbers to constitute a credible deterrent.

An expanded Japanese defence effort, desired by the Reagan Administration for both strategic and economic reasons, would certainly breach the unofficial "golden rule" of the last decade that defence spending should not exceed 1 per cent of gross national product. In the budget for the fiscal year starting in April, defence accounts for 0.88 per cent of GNP, assuming a 3.2 per cent annual growth rate.

Moscow's sharp reaction to Mr Nakasone's interview, while predictable, will also cause the Prime Minister's critics to wonder if he is not about to undermine the convenient relationship Japan has enjoyed with its two powerful Communist neighbours, the Soviet Union and the Chinese.

Mr Nakasone also spoke in the Post interview of the desirability of putting political limits on Japan's economic expansion, which can be interpreted



Yasuhiro Nakasone... tough talk

as meaning curbs on Japanese exports to the Communist bloc, for political reasons as well as to its major Western trading partners. This would, it realised, be something of a blow to the Japanese commitment to free trade.

The Prime Minister's extensive interviews with the U.S. media were mainly for American consumption. But they are being heavily played back here. Mr Nakasone is due to address his Liberal Democratic Party's annual convention in Tokyo starting tomorrow and it will be interesting to see if his arguments are differently couched for Japanese ears.

## Tractors start Egypt border row

By Our Tel Aviv Correspondent

ISRAELI accused Egypt of violating the peace agreement between the countries yesterday, when Egyptian tractors moved into the demilitarised border zone at Taba, a disputed area in Sinai, south of the Israeli port of Eilat, on the Gulf of Aqaba.

Israel's sharp reaction to the border infringement epitomised the prickly nature of relations between the two countries. Since the Israeli invasion of Lebanon last June, Egypt has frozen almost all dealings with Israel and recalled its ambassador from Tel Aviv.

General Dov Ziv, the Israeli representative on the joint Israel-Egypt military committee, launched a complaint with Egypt yesterday and called for an immediate halt to the ground-leveling work.

The Egyptian Foreign Ministry said later that the border had been crossed in error, and by last night the tractors had been withdrawn. Both Israel and Egypt claim sovereignty over the 600-metre stretch of coast at Taba. When Israel made its final withdrawal from Sinai last April, it was agreed to leave Taba as a demilitarised zone until the dispute can be resolved.

## Israel stands firm on Lebanon terms

BY DAVID LENNON IN TEL AVIV

AMERICAN EFFORTS to persuade Israel to soften its terms for withdrawal from Lebanon have not met with much success so far, in spite of days of intensive negotiations in Jerusalem between Mr Philip Habib, the special U.S. envoy, and Mr Yitzhak Shamir, the Israeli Foreign Minister.

Israel is insisting that its soldiers man early warning stations in southern Lebanon, after it withdraws its invasion force. Jerusalem also wants a detailed, written agreement on the normalisation of relations with Lebanon.

Mr Habib argued that stationing Israeli soldiers in Lebanon after the withdrawal would infringe Lebanese sovereignty. It would also lead, he said, to a Syrian demand for a similar arrangement in that part of Lebanon which its forces occupy.

The U.S. envoy suggested instead that the early-warning stations, designed to detect any movement of Palestinian guerrillas or other Arab forces towards the Israeli border, be manned by U.S. personnel.

But Mr Shamir rejected this offer. He said that Israel would man the stations on a temporary basis, for an agreed number of years, or "until a peace treaty is concluded." The Foreign Minister said that the proposed

warning stations were intended to be part of the structure of close co-operation which Israel wanted to develop with the Lebanese army.

He also rejected the American proposal that Israel settle for practical understandings on normalisation, rather than insisting on a detailed, written agreement, which Lebanon may have difficulty signing.

Mr Antoine Fattal, head of the Lebanese delegation to the tripartite Israel-Lebanon-U.S. negotiations, yesterday rejected Israel's demand that it be allowed to man early-warning stations in Lebanon following its withdrawal.

The demand was raised by the Israeli delegation at the eighth round of talks, which was held at Kiryat Shmoneh, in northern Israel.

The delegations agreed to set up four sub-committees to discuss separate aspects of the negotiations. These will cover the framework for future relations (normalisation) between Israel and Lebanon, security arrangements, the withdrawal of foreign forces from Lebanon, and possible future guarantees.

## Arabs meet to discuss UK visit

FOREIGN MINISTERS of an Arab League delegation are due to meet in Morocco today to decide whether they can now go ahead with their planned visit to London, our Foreign Staff writes.

The delegation called off the visit after the British Government set what some delegates described as "insulting" conditions. The issue of a Palestinian representative has been at the centre of the row and it is believed that the Foreign Ministers will discuss a compromise formula worked out by the British and Moroccan governments.

Arab diplomats suggest that there has been some movement on the British side but remain unsure whether it has been sufficient for the visit to go ahead.

The ministers from Saudi Arabia, Algeria, Jordan, Syria, Tunisia and a representative from the Palestine Liberation Organisation are to meet in Marrakesh under the chairmanship of King Hassan of Morocco.

Unless there is agreement between the Arab League and Britain there is little chance of Mr Francis Pym, the Foreign Secretary, being able to reinstate his proposed tour of Gulf countries which he was forced to postpone last week after being informed that he would not be welcome.

## Tasmanian power station offer attacked

BY MICHAEL THOMPSON-NOEL IN SYDNEY

THE DISPUTE over Tasmania's planned Franklin River hydro-electric scheme suffered a fresh twist yesterday with claims that an offer by the Australian Government to fund an alternative coal-fired scheme had been "cooked up" between Mr Malcolm Fraser, Prime Minister, and Mr Robin Gray, the Tasmanian state premier.

Mr Fraser, after touring Tasmania's south-west wilderness—scene of the proposed hydro scheme—offered on Wednesday to fund a \$4500m (£300m) coal-fired power station instead, so as to save the Franklin River without damaging employment prospects in Australia's smallest state.

The offer was rejected out of hand by Mr Gray.

The Federal Government and the Tasmanian State Government are Liberal-run, but yesterday, Australian Labor Party and Democrat leaders claimed the Fraser offer breached "new heights in political cynicism," and had been a put-up job aimed at improving Mr Fraser's popularity ahead of this year's General Election.

Mr Gray rejected the offer on Wednesday as insufficient. He said the coal station would last only 30 years, against 100 for the hydro scheme, and claimed the coal station would leave at least 150,000 tonnes of ash a year.

Plans to flood the Franklin partially have caused protests by conservationists alarmed at the prospect of damage to a world heritage area which con-

tains Australia's oldest-known aboriginal sites.

The Democrats warned yesterday that they might block Money Bills for Tasmania in the next Federal parliamentary session, while Labor leader Mr Bill Hayden said he did not believe Mr Fraser was sincere in wishing to halt the dam.

Senator Don Chipp, leader of the Democrats, said yesterday that research indicated that 21 Liberal seats could fall on the dams issue alone.

Tasmanian unemployment is more than 11 per cent. Many of the state's main power users, including Comalco, EZ Industries and Broken Hill Proprietary, have been hit by the decline in world minerals demand.

Mr Fraser stressed yesterday that his offer was still on the table. But he seemed loath to intervene directly in the controversy.

Mr Gray has said that the Franklin hydro scheme, still in the very early stages of construction and not due to deliver power until 1990-91, had been approved by Tasmanians in a state election and in a referendum.

He has consistently maintained he is not open to a federal offer of compensation for abandoning the Franklin hydro scheme—a stance that not only threatens grave troubles for the Liberals in the General Election, but raises the possibility of a dog fight on constitutional rights.

## Thailand's economy shows mixed results

BY JONATHAN SHARP IN BANGKOK

THE BENEFITS and the drawbacks of conservative fiscal policies are illustrated in figures this week measuring Thailand's economic performance in 1982.

On the plus side was a reduction in the perennial trade deficit, from baht 65bn (£1.7bn) to baht 40bn, an increase in the overall balance of payments surplus by baht 900m to baht 3.3bn and a 50 per cent reduction in the current account deficit to baht 27.5bn.

But two important vehicles for future growth, private sector and foreign investment, were down in 1982 by 19 and 21 per cent respectively, according to the official figures.

High local interest rates are the cause for the drop in investment, and the Government is not doing enough to help bring them down, say critics. They add that tight fiscal

policies may be laudable in the short term, but they may strangle future growth prospects.

Mr Sommai Hoontrakul, Finance Minister, a cautious technocrat, has presented a budget for fiscal 1983 which holds real budget growth close to zero.

The reduction in the Thai trade deficit may be short-lived. The good trade performance was achieved by major increases in exports of agricultural products, with greater volume to some extent offsetting the downward trend in world prices.

Output, though for the 1982-83 crop year is expected to be down about 10 per cent, hence Thailand, still predominantly an agricultural country, will find it difficult to sustain a high growth rate in exports.

## Indian violence threatens Assam state elections

BY K. K. SHARMA IN NEW DELHI

VIOLENCE and arson in the troubled north-eastern state of Assam, where elections are to be held next month, have forced the Indian government to put an indefinite curfew in two key towns in Nongpoo district.

The violence came during a successful 35-hour general strike called by students who have been agitating for four years for the deportation of "foreigners," mainly migrants from Bangladesh and the Indian state of West Bengal.

The agitation forced the postponement of general elections in Assam when they were held in India in 1980. The students, who oppose the holding of the

elections next month, have said they will not allow balloting to take place.

After the student's announcement, the major opposition parties in India with the exception of the communists have declared that they will not take part in the Assam election. This strengthens the chances of Mrs Indira Gandhi's Congress (I) which was trounced in south India elections two weeks ago. The state's unsettled conditions, which would make the elections unreal, could be escalated by the students.

This could damage Assam's economy as it produces 3m tonnes of crude oil annually as well as large quantities of tea.

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## THE SERPELL REPORT

## Anxieties remain for railway chiefs

THE DECISION by Mr David Howell, Transport Secretary, to set up the Serpell review, followed nearly 18 months after a request for one was made by Sir Peter Parker, British Rail chairman.

British Rail wanted a review of its objectives and financial framework in the hope that this would sort out what it termed the "mismatch between the political, economic and social constraints, between short-term pressures and long-term planning."

Sir Peter had spoken frequently about what he called "the crumbling edge of the railways," referring to the problems of running the present network within tight financial constraints.

His hope was that the report of the review committee would endorse much of his plan for a modern, electrified, cost-effective railway, as set out in the BR Board's document in March 1981 "Rail Policy."

His concern that new terms of reference be drawn up for the railways was shared by some senior officials in Whitehall, and also by Mr Howell, although Whitehall was much more inclined to stress the need for efficiencies than BR.

Between the time that the initial report was made for a review, and the publication of the report yesterday major events have changed the position of BR. The recession began to hit passenger business towards the end of 1981 - freight had already been badly hit - while the past year saw strikes on the railways which were the worst since 1925.

These events have shaken confidence in BR, and must have been a significant factor in the production of a predominantly negative report as far as BR is concerned. BR's fear is that there is plenty in the majority Serpell and the minority report by Mr Alfred Goldstein to support the views of the anti-rail lobby that BR is inefficient and takes too large a slice of public money.

There is little, on the other hand, to encourage those who believe that the role of the railways should be strengthened. For BR, it is a thoroughly bad report, and for the Government, it perhaps leaves as many questions unanswered.

## Heavy cuts in rail system ruled out by Transport Minister

BY HAZEL DUFFY AND IVOR OWEN

HUGE CUTS in the British Rail network - outlined in yesterday's Serpell review as the most radical option - were later ruled out by Mr David Howell, Transport Secretary, in a statement to the House of Commons.

Mr Howell sought to allay fears expressed by Tory MPs from Scotland and south-west England alarmed by the political consequences if passenger and freight services in their areas should be threatened. He made clear that the report, published yesterday along with the minority report of one member of the four-strong committee, required a period of study which will extend beyond the coming general election.

The report of the Government-appointed committee chaired by Sir David Serpell brought little comfort to the board of British Rail, whose chairman, Sir Peter Parker, had pressed for an independent review of British Rail finances to be set up.

It makes no clear-cut case for the investment funds that Sir Peter Parker had hoped to get from the Government, and rejects some of the board's pleas that more money is desperately needed for items such as renewal of track.

The report also contains a series of optional network sizes, including one which would shrink the network to about 15 per cent of its present size.

Mr Howell said yesterday that the Government's current policy of not wishing to see "substantial" rail closures would be maintained until a careful re-examination of the fi-

nanial prospects for the railways, which would include consideration of the valuable information provided in the Serpell report, had been completed. He promised MPs that any change of policy would then be announced to the House of Commons.

Sir Peter Parker tried to mask his disappointment over the report yesterday by emphasising the few parts which could have a positive impact on British Rail, and stressing that it at least opens up the debate on the future of the railways. He called for the Government to make a decision on the size of the network following the public debate. "I never expected to get a fat cheque from the Government, but there is a window here. Let us get through it."

On the report's criticisms of certain management procedures at British Rail, particularly planning and engineering functions, Sir Peter Parker said: "We live in a kind of climate of insult," but added: "What is not very attractive is loose talk about management competence."

Reaction to the report from some bodies was more expressive. Mr Russell Tuck, acting general secretary of the National Union of Railwaysmen, said: "I cannot understand how intelligent people could produce such a stupid report. For the travelling public, the railway industry and the community as a whole, the report is a disaster. Whole sections of the country could be robbed of services, fares massively increased and thousands of jobs lost."

## Shipbuilding unions told more than 2,000 jobs must go

BY DAVID GOODHART, LABOUR STAFF

BRITISH SHIPBUILDERS (BS) yesterday announced more than 2,000 redundancies by the end of March and warned the shipbuilding unions that there could be a further round of major job cuts by the end of the year.

BS said the immediate redundancies, concentrated in the North East of England might have to be compulsory if a sufficient number of volunteers could not be found. The unions will see that as a breach of a 1978 agreement with BS which they have always interpreted as guaranteeing no compulsory redundancies.

The redundancies and the proposal from Sir Robert Atkinson, chairman of BS, that "there should be a total wage freeze within the industry in order to contain costs" were immediately condemned by a delegate conference of the Confederation of Shipbuilding and Engineering Unions (CSEU) in Tyne-mouth.

Mr Jim Murray, the union's chief shipbuilding negotiator, said: "We may well be on a collision course." Many delegates have rejected even voluntary redundancies, but the full union response will not be known until a further delegate conference on February 17.

A national strike is thought unlikely, but Mr Alex Ferry, general secretary of the CSEU warned the conference yesterday that a further 30,000 jobs were at risk over the next few years.

Announcing details of the redundancies yesterday, BS said that 1,837 jobs would have to go, plus about 400 short term workers mainly at Swan Hunter in Wallsend.

In the merchant shipbuilding sector 200 jobs will go at Austin and Pickersgill in Sunderland; 415 at Sunderland Shipyards; 30 at Clandis Shipyards in Wallsend; 500 at Swan Hunter at Wallsend; 32 at Smith's Dock in Middlesbrough.

In the warship building sector 99 jobs are to go at Vickers Shipbuild-

CUTS IN SHIPYARD WORKFORCE TO END OF MARCH, 1983	
Merchant shipbuilding	200
Austin and Pickersgill, Sunderland	415
Sunderland Shipyards, Sunderland	30
Clandis Shipyards, Wallsend	500
Swan Hunter Shipyards, Wallsend	32
Smith's Dock, Middlesbrough	99
Warship Building	227
Vickers Shipbuilding, Barrow	99
Vesper Thornycroft (UK), Portsmouth and Southampton	227
Engineering	94
Blackwell Engineering, Poplar, London	229
Walsingham Steel, Walsingham	11
Walsingham Shipyard, Walsingham	460
Short time workers (mainly Swan Hunter)	2,297
<b>Total</b>	<b>2,297</b>

ing and Engineering in Barrow; 227 at Vesper Thornycroft (UK) Ltd in Portsmouth and Southampton.

In the engineering sector 11 jobs go at Walsingham Shipyard; 94 at Blackwell Engineering, Poplar, London, where BS are in negotiations on a possible sell-off; and 229 at Walsingham Steel in Co Durham - which will close completely.

Mr Atkinson said that additional earnings could come about only through real improvements in productivity. He said: "The cost-price gap has to be bridged if we are to survive, and there is simply no prospect of asking the Government for yet more subsidy to finance wage increases in a loss-making corporation."

BS lost £19.8m last year, and £28m in the first half of this year. It has shed about 28,000 jobs since it was nationalised in 1977, and the total workforce now stands at 65,000.

Mr Maurice Phelps, industrial relations director at BS said: "We must control our labour costs and improve our productivity. The state of shipbuilding throughout the world is pretty grim, and in order to produce stable employment we have to make sure we are competitive. Further redundancies cannot be ruled out." BS estimates that productivity in Japan and the Far

## 900 face redundancy in closure of Thames Board mill

BY OUR LABOUR STAFF

THAMES BOARD, the board and packaging subsidiary of Unilever, is to close its mill at Warrington, Cheshire, with the loss of 798 jobs. The decision is blamed on mounting losses and a dismal trading projection for the next 12 months.

Union representatives said a considerable number of contract workers and ancillary staff who worked at Warrington would also be losing their jobs. This would push total job losses above 900.

The company's board-producing plants at Purfleet, Essex, and Warrington, Cumbria, which employ a further 1,400 will not be affected.

Thames Board, which claims to be Britain's largest board maker, said the Warrington mill had a capacity of 145,000 tonnes of waste-paper-based packaging board, but output last year was only 102,000 tonnes.

The paper and board industry has been hit by high energy costs, high interest rates, imports from Scandinavia and the EEC and overcapacity in some sectors during the recession.

The St Ann's board mill at Bristol which is partly owned by Imperial Tobacco closed a year ago. Thames Board itself shut a mill at its Purfleet site last year.

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Sir Peter Parker: 'I did not expect a fat cheque'

## POINTS FROM THE MAJORITY REPORT

## Board's investment plans rejected

THE SERPELL report emphasised the huge scale of railway activities in Britain - a basic network of nearly 11,000 route miles with expenditure of £2.5bn in 1981 and passenger journeys of nearly 2m a day, Monday to Friday.

Nevertheless, the importance of the system within the national economy had declined, it said. In 1980, the railway carried only about 54 per cent as much freight (by weight) as it did in 1955, and while total passenger travel (by rail, bus and car) nearly doubled between 1950 and 1980, rail passenger miles decreased marginally.

Investment: The Board's investment plans were not endorsed. On two main items of infrastructure investment - continuous welded rail and signalling - it suggests the expenditure between 1983-86 need not be as much as planned. The "high investment" railway, as proposed

by the board was tested by consultants. The result: "The improvement that would be secured in operating results would not be sufficient to justify the increased investment."

Cost savings: Savings resulting from recommendations in the report are put at about £220m a year. They made no allowance for transitional costs, such as redundancy, which the committee said "could be substantial."

Main line Inter City routes were unlikely to reach their target of viability by 1985. There were two options: progressive closure of services with the worst results, or grant-aiding the sector.

London and the South East: There was little prospect of commuter traffic growth, but there might be potential for raising revenue by reducing discounts on season tickets and perhaps going for a "real"

increase in fares.

Provincial services: This sector, covering all passenger services not classified as Inter City or London and South East, was the biggest loss-maker. Cost savings were advocated, but the sector would continue to need financial support of about £450m a year in the absence of cuts in size and the level of services.

Freight: The committee saw a reasonable prospect of the business breaking even by the mid-1980s. Maintenance: Recommendations were made for cost savings and the report rejected British Rail's assertion that a sizeable backlog of track renewals was accumulating.

Advanced Passenger Train: It was recommended that three competing vehicles should be assessed with a view to an investment decision in two years' time. Meanwhile the APT should be remitted to Research and Development.

## THE MINORITY REPORT

## Decisions needed on size of network

THE MINORITY report by Mr Alfred Goldstein writes in a more direct manner, addressing itself more to the need for a political decision to be made on the size of the network, from which, he said, other policy decisions would follow.

He supported much of the majority report but said his dissent related to "their approach to the discharge of our task... the real issue is what size and quality of railway should the nation decide to support, having regard to the many demands on taxpayers' money."

Mr Goldstein had little time for British Rail planning procedures - at one point he said it was in "severe disarray." For this reason, he could not bring himself to take too

seriously the Rail Plan to 1986 and the "further initiatives," which could save BR £147m a year, that were advanced by Sir Peter Parker, the BR chairman, to the committee.

"The Plan is not a Lego kit, to which arbitrary additions, taken from possible future plans, can be made."

He was careful not to recommend any particular size of network, although he made the point that "substantial savings could be made by small reductions of service and network."

The obvious targets for cuts were the provincial services, which, as shown by Serpell, were very heavily subsidised. "Ultimately, if change is desired, the trade-off may be be-

tween a larger railway operating under severe investment constraints or a rather smaller railway at a high quality of service to the customer."

The latter, involving higher investment, could provide benefits when viewed on a national basis, not least in employment resulting from such investment.

In spite of sharp criticism of the rail management and its forward planning, Mr Goldstein agrees that "the necessary change to a more businesslike approach has begun: if this is sustained and if the Government plays its part by defining with greater clarity the policy objectives, then the railway can be a vital organisation serving a useful role."

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**BLOCKER EXPLORATION 1981 N.V.**

The Special General Meeting of shareholders of Blocker Exploration 1981 N.V. originally scheduled for January 25, 1983, is being postponed until a later date. Notice of the rescheduled meeting time will be published shortly.

# Tax relief on your mortgage

## A CHANGE FOR THE BORROWER

**From April 1983 you will get tax relief on your mortgage interest in a new and simpler way.**

You will no longer get your tax relief in your PAYE code number or assessment. Instead, your basic rate tax relief will be deducted from your mortgage interest payments. So you will pay less to your lender (building society, local authority, bank or whoever), although you will pay more in tax.

You will still be getting the same tax relief. But in future you will get the right amount of relief without having to wait for your tax office to change your PAYE code number.

If you pay tax at higher rates, your tax office will still give you relief above the basic rate.

Most borrowers will be affected but there will be some exceptions. For example, if your mortgage is over £25,000 your tax office may still have to give you your tax relief as they do now. Your lender will tell you more about how your mortgage will be affected.

To keep your monthly payments level, some lenders may also propose a change in the way you pay back your mortgage. This would mean paying a little more at first than you would otherwise have to pay, but less over the mortgage period as a whole. Borrowers do not need to accept this proposal and if you do not wish to do so, your lender will tell you what other choices you have.

The Option Mortgage Scheme ends on 31 March 1983. If you have an option mortgage, you will no longer get a subsidy but you will get the benefit of mortgage interest relief whether or not you pay tax. Under the new system, you have the same rights as any other borrower. Again your lender will tell you how your payments are affected and what other choices you may have.

The change also means savings in the Inland Revenue from which all taxpayers will benefit.

**Inland Revenue**

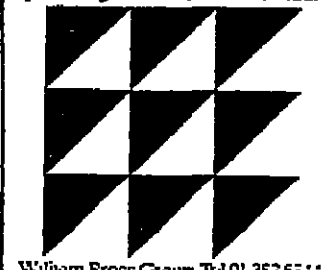




## TECHNOLOGY

EDITED BY ALAN CANE

Engineering contractors to the oil, gas, chemical, process and power generation industries.



### Controls Solid state package

LIMITORQUE of Newbury in Berkshire (0635 43297) believes that it is the first valve actuator manufacturer to produce a truly solid state control package which fully replaces conventional electro-mechanical integral reversing controls.

Basically, a three-phase induction motor is driving the stem of, say, a butterfly valve through reduction gearing and the motor, in turn, is controlled by a triac-based stop, start and reverse circuit.

### Coils Elasticated twine

A MACHINE designed to overcome the problem of tying and securing coils, cable rubber or plastic hose is now being marketed by Calvert Machinery (tel: 0635 72067). This machine is the Siebeck Ringspinner which uses elasticated twine tying material to ensure that the coil is held tightly together.

### TRADING

## Computer system for spot basis dealing

A COMPUTER system for buying and selling chemical products on a spot basis has been launched by I. P. Sharp Associates. This will allow chemical producers, traders and consumers to trade on a world-wide basis.

The service, to be known as the Electronic Markets and Information System, will be operated by McGraw-Hill in a joint venture with I. P. Sharp. Subscribers have access to the system through computer terminals linked into I. P. Sharp's communications network which spans 500 cities worldwide.

At present there are 13 subscribers to the system. They are able to make bids for buying and selling anonymously if they wish.

The trading list contains nearly 40 types of chemicals and chemical feedstocks including Benzene, Butane, Vinyl Chloride and various polymers.

### INSULATION

## Pipe material

DUNLOP SEMTEX has developed Dunlotherm 'O', a pipe insulation material claimed to be the first of its kind to combine the benefits of flame retardancy with flexibility.

Until now, says the company, all pipe insulation products offering significant flame retardancy have been rigid. The new material is treated by a patented process which ensures that it will not support flame (as tested to BS 476 Part 7) and conforms to Class 0 of the Building Regulations, Section E 15.



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### MARKET LEADER IN PERSONAL COMPUTERS' REVOLUTIONARY AND COSTLY MACHINE

## Apple's 'Lisa' takes the stage

BY LOUISE KEHOE IN SAN MATEO

AFTER MONTHS of rehearsals with small audiences, Apple Computer this week pulled back the curtains and presented its new computers to the world at a standing room only annual stockholders' meeting.

Star of the show was "Lisa"—a new machine glittering with features unmatched by its rivals. Lisa's \$10,000 price tag, however, gave it an untouchable quality for many observers.

The second act—the Apple IIe—was an old time favourite, back by popular demand. One of the earliest commercially produced personal computers, the Apple IIe is still among the top sellers.

Apple promised that it would introduce a "revolutionary" personal computer, and with Lisa, most agree that the company has delivered. Lisa fulfils Apple President Mike Markkula's dream of a computer that can produce useful work for a new owner in less than half an hour.

Tests with hundreds of people show that the average learning time on Lisa is only 24 minutes. Most personal computers (including Apples) take as many days to become more than a mystery for computer novices.

Achieving that goal has not, however, been easy. The company spent three years and \$50m on the Lisa development. Now industry sceptics wonder if the company has bitten off more than is necessary for the sake of innovation.

Using Lisa is a new experience even for the regular personal computer user. It is like switching from a standard motor car with manual gear change to an automatic with cruise control, electric windows and power brakes—practically all that is left for the driver to do is to choose his speed and steer the car.

For the beginner, "driving" Lisa will be dramatically easier than getting to know any other personal computer. Ironically, just as it is difficult for the longtime driver to adapt to a new car, it will require a willingness on the part of those familiar with personal computer methods—including computer dealers—in take to Lisa.

Lisa is, however, designed for the very specific market among executives who have no prior experience of using personal computers. Apple reckons that there are 30m such people

in the U.S. and a similar number in Europe in small, medium and large companies.

"Lisa is for the professional 'knowledge worker' who does not want to go through the humiliation of learning how to use a personal computer in front of his peers," says Mr. Barry Smith, Lisa Software Marketing Manager.

Apple calls Lisa the "personal office computer." It is a productivity tool for executives. Lisa will open up the high end of the personal computer market," says Portia Issacson of Market Researchers Future Computing. Lisa overcomes the reluctance of professionals to price a keyboard with a "mouse"—a little hand-held device that the user guides on the desk top to move a cursor on the screen.

The mouse has a single push button that initiates functions that the cursor points to.

On Lisa's screen are displayed pictures of a waste basket, a clipboard on which to hold pending items, a folder to file documents away in, a memo pad, and more. "We have tried to model Lisa's functions on traditional office routines," says Mr. Smith.

Following that model, Lisa can perform several functions simultaneously. Its integrated software also allows for swapping of data from, for example, a spreadsheet calculating program, into a graphics program. Graphics and text can easily be combined on one document too.

Lisa will be available in the U.S. and UK in June, says Apple. The system will be bundled into a package that with the 16/32 bit computer, a keyboard, monitor, and two high-capacity floppy disk drives. Included in the price will be a hard disk unit with a capacity of five megabytes. The mouse and six software applications packages. Apple has however continually changed its mind about the exact configuration of Lisa, right up to a few days before its launch.

It is Lisa's software, rather than hardware, that makes it special, however. All Lisa's programs are new. But Apple II programs can be run on the new machine. Apple will also support two standard operating systems—Zenix (a version of Bell Labs' Unix) and CP/M that will make the new machine compatible with programs

written for use with those systems.

Lisa's own system software has been created at Apple and will remain proprietary. Apple has, however, handed over "tool kits" to enable third party software houses to produce more programs for Lisa. Lisa's operating system enables the machine to switch data from one application to another by providing an integrated software environment.

Lisa's basic software will include word processing, a spreadsheet program, a business graphics program and a personal filing system. Two important programs are however added to the usual selection—Lisadraw and Lisaproject.

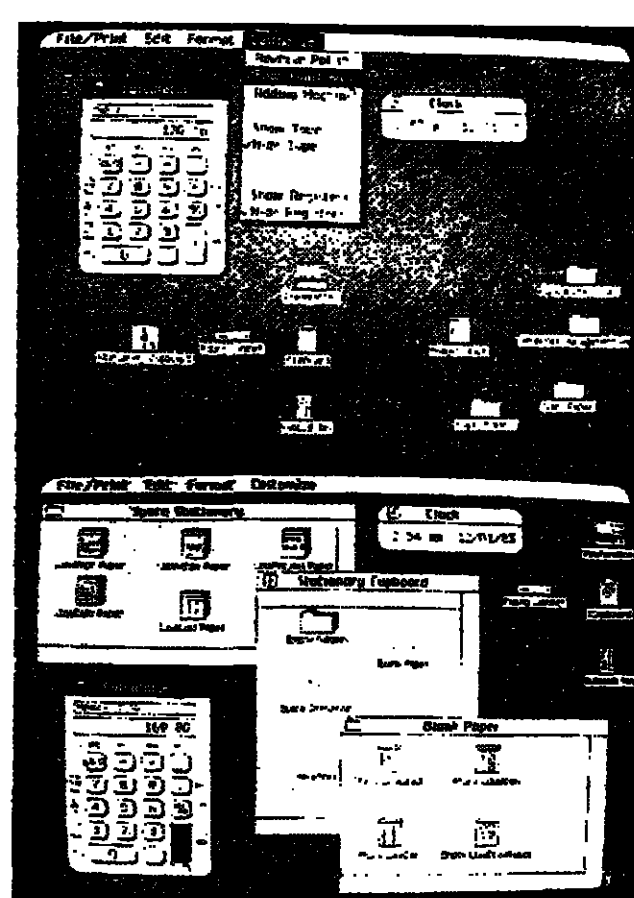
Lisadraw is a tool for creating pictures and diagrams. It allows the user to edit graphics in the same way that text can be manipulated. Flow charts, technical diagrams, maps, pictures and the like can be created in minutes and then printed out. The program provides a menu of boxes, circles and free-drawn lines that can be used to build up pictures.

Lisa Project is a visual project management tool that helps a manager to schedule and track complex projects. This program is the first of its kind and will become as popular as spreadsheet or word processing applications," predicts Portia Issacson.

In contrast to Lisa, Apple IIe offers the consumer little that is new. The IIe is an update of the Apple II plus design. Memory capacity is increased to 64K. The keyboard has been changed and can be switched between two languages—English and German for example, and for the first time the Apple II has upper and lower case display capability built-in.

In terms of hardware and manufacturing technology, Apple IIe is far in advance of Lisa. However, the 110 integrated circuits of the Apple II plus boards have been reduced to only 31 for the IIe. That along with changes in the construction that make the new version much faster—and ultimately cheaper—to make represent a major step forward for Apple.

In the long term manufacturing technology may be more significant for Apple's success than its software innovation.



Above, Lisa users see on the screen a representation of a desk top. It includes simple pictures of things they commonly work with, such as folders and documents. Below, the new Apple Lisa desktop personal office system.



# It is incredible that something this small can make the world more colourful.

## Video has taken a whole new dimension. Smaller.

It goes without saying that we live in a changing world. In many instances this change is represented by objects becoming gradually smaller. Ours is a generation that has witnessed the progression from vacuum tube to transistor to micro-processor. Each step was not merely a step toward reduction in size, it was also a step toward greater efficiency and reliability.

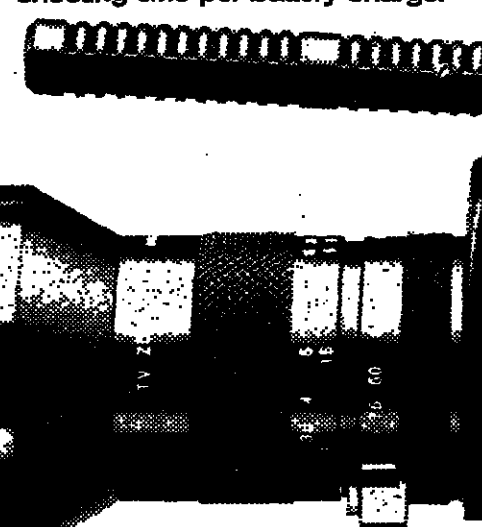
Due to the innovative research efforts at Hitachi, the same trend now holds true for one of the last hold-outs of the vacuum tube, the video camera.

The MOS (metal oxide semiconductor) image sensor is one of the results of Hitachi's ongoing research. It's the optimum device for picking up visual images to be recorded on video tape, and the key component in Hitachi's revolutionary, new VK-C2000 colour video camera. Replacing the conventional pickup tube with the MOS image sensor has allowed a remarkable reduction in camera size.

Completely solid-state design means none of the annoying after-images or burn-in caused by pointing the camera lens at bright light. Every image recorded is much truer to the original than ever before possible with a portable colour video camera.

Unlike pickup-tube type cameras, the VK-C2000 requires no warm-up. It's ready to shoot on demand and an image appears in the viewfinder just 0.5 seconds after power is supplied. What's more, this camera is

a real power miser, consuming only 5.3 watts during recording and astounding 0.1 watt during standby, thanks to a special Power Save switch. The result is more real shooting time per battery charge.



These amazing accomplishments were made possible because Hitachi's expertise is not limited to a single speciality or field. By constantly pursuing new technology in the forefront of each aspect of electronics—video, semi-conductors, photolithography, and more—Hitachi has established its position as one of the world's leading manufacturers of electrical and electronics products.

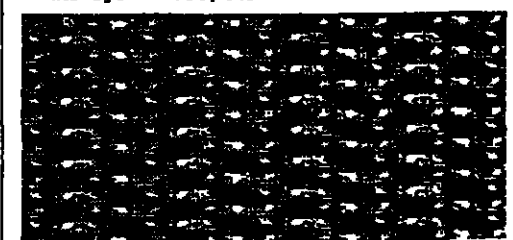
Hitachi is proud of their technical success in producing the MOS camera. It is only one example of the ongoing commitment to improve the quality of life through innovative technology. At this very moment, Hitachi research and development technicians are working on hundreds of other promising projects, from the world's fastest computer, to full scale water treatment plants.

Hitachi is working on a lot of new ways to make the world more colourful.

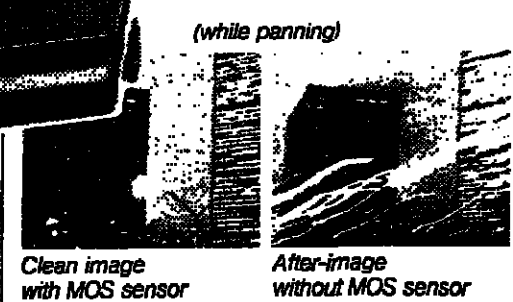


## The amazing MOS image sensor.

To create this incredible device, Hitachi engineers had to arrange more than 223,500 photodiodes in a 577x388 matrix on a single silicon chip less than 1 cm square. When light from an image strikes these photodiodes, electric current is generated and picked up line by line at high speed through MOS transistor switches, thus producing video signals. The process is completely electronic, with no moving parts and no energy lost in the form of radiated heat. The engineers also had to come up with entirely new micrometric techniques to separate colours for conversion into appropriate signals. Their approach was to mount each and every one of the photodiodes, which measure a mere 20 µm (1/50 of a millimetre) in diameter, with independent colour filters. A magnified picture of the MOS sensor surface reveals these tiny gem-like filters—yellow, white and cyan—in their special mosaic configuration which provides improved colour resolution. The photodiodes read colour signals indirectly from the filters as light passes through them, using an innovative system of colour arithmetic whereby white-cyan = red, etc.



MOS image sensor matrix



Clean image with MOS sensor

After-image without MOS sensor



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## MANAGEMENT

EDITED BY CHRISTOPHER LORENZ

# Why a stores group lost its way in the High Street

David Churchill analyses the problems of UDS, currently the subject of a £190m takeover bid

WHAT has gone wrong at UDS? The group is not only one of Britain's largest retailers but also one of its most troubled, outperforming even the much-maligned Woolworth chain in the range of its problems.

In brief the answer is that UDS, whose retail tentacles stretch into virtually every High Street in the country (under such guises as John Collier, Richard Shops, Timpson Shoes, Orbit, and Alders) is a group that has lost its way in the retail world over the past decade. In the process it has made virtually every retailing mistake in the book.

It is now fighting vigorously to retain its independence against a 100p a share bid—valuing the group at £190m—a financial consortium headed by Gerald Ronson of Heron International.

This consortium, called Bassishaw Investments, believes it can reverse the fortunes that have seen UDS lose its premier position in both the men's and women's fashion sectors in less than a decade.

UDS has responded too little and too late to fresh consumer preferences, and has lacked the drive and determination to stay on top that has been a notable hallmark of other such successful retailers of the 1970s as J. Sainsbury or Marks and Spencer.

## Laurels

"Sheer complacency was one of UDS's main problems," suggests John Richards, a senior retail analyst with a leading stockbroking firm, Capel-Cure Myers. "The UDS management rested on their laurels and stopped thinking how to run a company whose deteriorating performance was obscured by the inflation of the 1970s. UDS is a prime example of the failure of certain established retailers to come to grips with the harsh reality of modern retailing that a decade of inflation and recession has created."

Cyril Spencer, the 58-year-old former Burton chief who is now a key part of the Bassishaw consortium, agrees, not surprisingly, with this analysis: "You've got to be able to anticipate trends and be able and willing to perform well in the rough times as well as the boom periods," he says. "The trouble with UDS's management is that they have never really understood retailing."

Bernard Lyons, UDS's chairman for the past decade until he retired at the end of last year, was in the family tailoring business of Alexandre when it was acquired by UDS in 1954. His son Stuart, 38, joined the business after a brilliant academic career; he still finds time to study Mandarin Chinese.

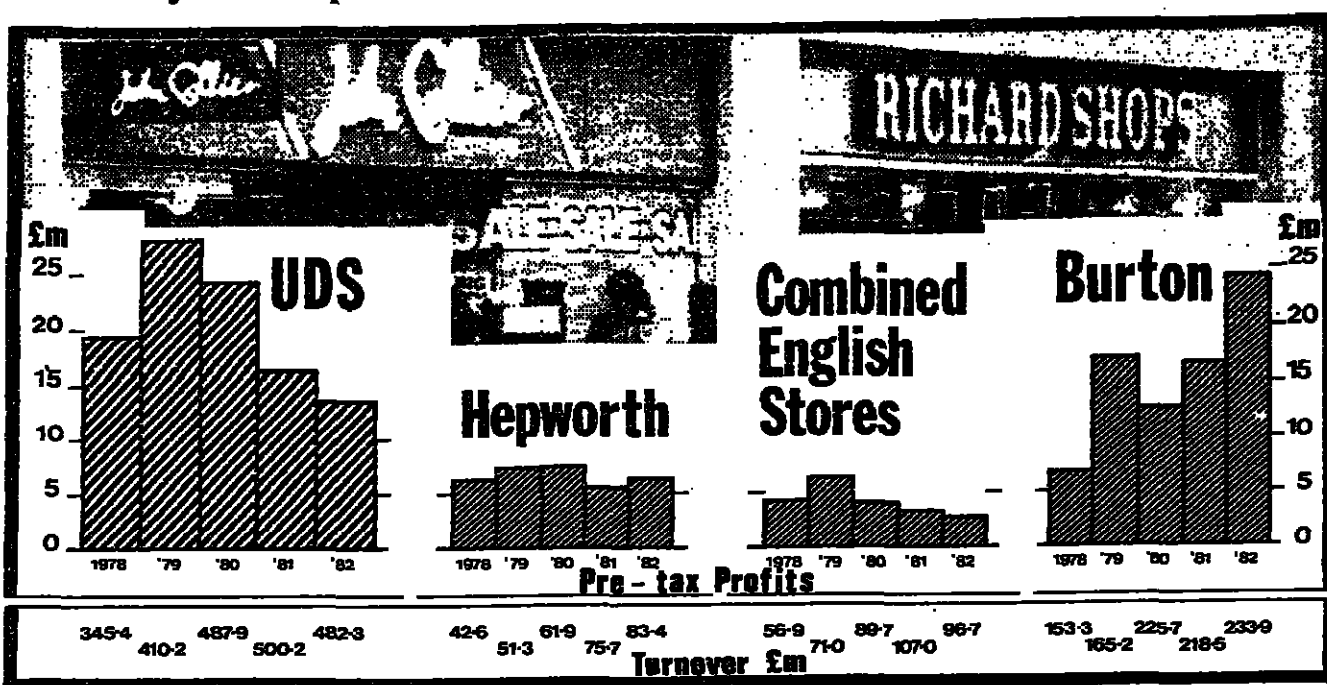
Sir Robert Clark, UDS's chairman since January 1, is disarmingly frank about the company's past track record. "It has not been adequate profits or satisfactory returns for some years," he says. "But some changes have already been made and more will follow. My policy will be to do this with the participation of everybody from the most senior to the most junior."

The group's poor performance as a retailer is underlined by its recent financial record. Total turnover for the last full financial year at £482m was lower than either of the two previous years while pre-tax profits at £13.7m are about half the level of the 1979 peak of £27.8m. In the last half year, ending July 31 1982, both sales and pre-tax profits rose only marginally.

But UDS's sluggish record as a retailer has left it without a strong defence against the Bassishaw bid. The poor performance is at both a strategic and tactical level; strategic because UDS appears to have had no coherent retailing strategy other than buying growth through acquisition (and not making very wise choices at that) and tactical because it failed to operate as effectively as it could the retail assets it already owned.

Although UDS now operates only a dozen department stores—having closed down almost the same number in recent years—it was department stores that formed its core when it was formed in 1927. In the 1950s the group set out on the acquisition trail, expanding into both men's and women's wear.

In 1953 it bought "Fifty Shilling Tailors" and Claude Alexander, followed by the "Fifty Shilling Tailors" were eventually renamed as John Collier shops. Virtually within a decade, UDS had gone from having no menswear interests to having almost 600 shops and 13 factories with a combined output of some £24m. Richard Shops, which became one of the leading womenswear



UDS names in the High Street: Richard Shops (womenswear); John Collier (menswear); Timpson and John Farmer (shoes); Orbit (electrical goods); Alders (department stores) and John Blundell (door-to-door selling). Of some of its rivals combined English Stores comprises Sainsbury (food); Collingwood (jewellery); Harry Fenton (menswear); Mary S. Allen (chemists); Kingsbury Warehouse (furniture); Mercado (carpet importer); Ronson Fur; Acabrig (textile importer); and Billa (West German womenswear). Burton comprises Burton and Top Man (menswear); Top Shop; Dorothy Perkins; Evans and Peter Robinson (womenswear); and High Street Transport. J. Hepworth comprises Hepworth (menswear); Next (womenswear); and W. and E. Turner (shoes).

chains in the High Street, had been acquired by UDS in 1949.

By the beginning of the 1970s, therefore, UDS had emerged not only as a significant department store group but as probably the major force in both men's and women's fashion retailing. Burton was a larger group than John Collier, but it had severe management and marketing problems of its own at that time which many believed were insoluble. Marks and Spencer, now the leading womenswear retailer in the UK, was less of a force than Richard Shops.

It was at this point, however, that the UDS formula began to go sour, even though sales and profits were apparently on an upward path because of the rising inflation of the early 1970s. UDS's growth in the 1950s and 1960s had been by acquisition; it therefore seemed logical for the newly installed chairman, Bernard Lyons, to continue the process. During the subsequent decade, Lyons spent around £70m on acquisitions, with a large share of these takeovers

involving cash—a policy which inevitably led to high bank borrowings.

## Mistakes

The UDS takeover spree of the 1970s included such major mistakes or only partial successes as:

- the Swears and Wells leather and fur chain for £4m in 1970. UDS never came to grips with this partly because of the seasonal nature of much of its business. Eventually the stores were closed and the sites either sold or converted to either Richard Shops or Collier outlets.

- the Myers mail order company for £10.5m in 1971. Myers was too tiny to be able to compete effectively against giants of mail order retailing such as G.U.S. (Great Universal Stores) and Littlewoods; it was eventually sold very cheaply to G.U.S.
- the Van Allan fashion shops chain in 1979, a downmarket clothing chain that was supposed to be positioned in the market below the more expen-

sive and mature market that Richard Shops appealed to. Van Allan never made money and its market image remained irredeemably downmarket.

- a 50 per cent stake in Mobil Hubner of West Germany, a high-quality furniture retailer and UDS' first venture into Europe. This has been generally successful, but UDS' second move towards a larger presence in Europe was, according to brokers Buckmaster and Moore, "an unmitigated failure." Through Mobil Hubner, UDS acquired in 1975 full control of the Bieberhaus Group, a well-established retailer of consumer durables. Within a month, Bieberhaus was forced to close down, leaving UDS to fight it out in the German courts against the auditors who carried out the pre-acquisition audit.

Admittedly, UDS has made much of a success out of its two shoe-shop acquisitions in the 1970s—Timpsons and Farmers—although their current health has only come after early trials. Moreover, the move into duty-free retailing at major UK and overseas airports, and

on certain ships has proved a consistent money-earner.

All of this distracted the group from the task of managing its major retail operations. A decade ago, John Collier was still the "window to watch" in the High Street insofar as men wanted to buy suits.

1970 was still the era of the made-to-measure suit; some 4m of these were produced to customers' specifications in that year, with John Collier accounting for a substantial share of the business. Now, less than 300,000 suits are made to measure. Over the past decade, the menswear market has changed in two directions: suits are now primarily bought off-the-peg, when bought at all and the trend is towards more casual clothes, including jeans.

John Collier, however, was slow to reflect this trend. In part, this problem was caused by having a customer profile which was of middle to older aged men in middle-class occupations; it was these men who have proved most reluctant to abandon the sober suit for office and everyday wear and to adopt a casual style instead.

UDS responded to Collier's declining market and image by closing down the manufacturing plant (only one factory is left, and that makes suits for U.S. servicemen in Germany), and by dropping the Alexandre and Claude Alexander retail names, concentrating all menswear activities under the Collier banner. The number of outlets has also been drastically pruned, to some 350 shops at present, well under half the number of a decade ago.

Spencer is reluctant to spell out his strategy for a revamped Collier chain, should the bid prove successful, but it would obviously hinge on a marketing approach that appealed to the younger customer wanting more casual wear. Burton, for example, has moved successfully in this direction with its "Top Man" boutiques.

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According to trade sources, UDS is often left with too much stock at the end of a season, stock which it cannot afford to mark down sufficiently to clear. This inhibits buyers when selecting the next season's ranges; they therefore act over-cautiously, and are left with examples, has moved successfully in this direction with its "Top Man" boutiques.

Revamping Collier will not be easy. The problem with Richard Shops is more difficult still, since the womenswear market is both larger (£3.4bn compared with about £1.2bn for menswear) and more competitive. The 217 Richard Shops trading at present (the total number of



THE ARTS

Arts Week

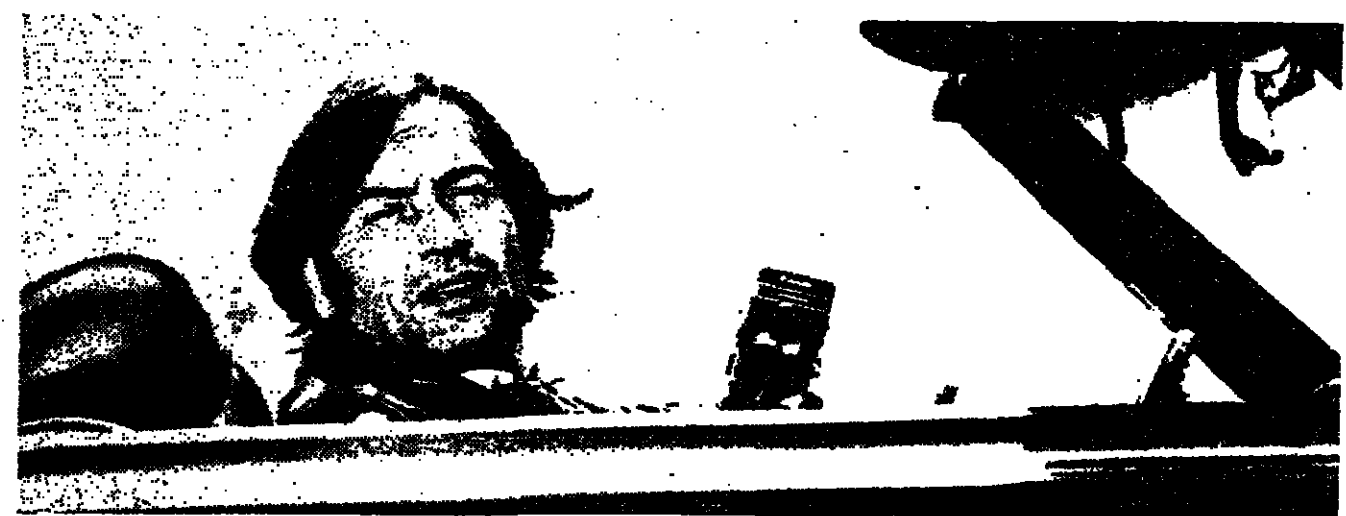
F 18 S 19 M 20 Tu 21 W 22 Th 23 F 24 Sa 25 Su 26

Handel Festival in Washington

The Washington Friends of Handel with the Washington Performing Arts Society sponsor this year's Handel Festival with events spread over the first half of the year. Conducted by Stephen Simon, the three performances will feature more than 15 vocal soloists from the Metropolitan and New York City Opera companies.

It starts this week with the 1745 opera Hercules with Buxton by Thomas Broughton (from Ovid and Sophocles). The heroine, Dejanira, will be sung by Susanna Mares and role by Loma Haywood, soprano from Covent Garden.

Theodore, Handel's penultimate oratorio, will come next in April, telling of the martyrdom of a noble Christian woman who refuses to participate in a pagan festival in ancient Antioch. Mezzo-soprano Beverly Wolff will repeat the title role she sang in the six previous Kennedy Center Handel festivals, while Metropolitan Opera bass, Justino Diaz will sing the villainous Roman prefect, Valerius.



Patrick Bauchau as the director in "The State of Things"

Cinema/Nigel Andrews

A cinematic miracle

The State of Things

Airplane II

Muddy River

Party Party

The end of the world at the edge of the world. On the Estoril coast—farthest point west in Europe—a movie crew are making a science-fiction film about the aftermath of a nuclear holocaust. Goggles, jumpsuits and surgical masks weave and lumber through the dunes landscape. Eerie shoeshorn backcloths flap in the wind by a deserted hotel. The tail of a broken plane rears vertically from the ground. Suddenly the cameraman (Sam Fuller), white hair smoking above a whisky-and-sawdust voice, steps forward to rap out the bad news. "We have no more film to make this picture." Collapse—or rather—of cinematic party: twang of broken shoeshorns, and the beginning of Wim Wenders' *The State of Things*.

Four months ago I brought the bad news from Venice to London that this film seemed a Wenders aberration. Even though it won the Golden Lion, few but the jury rhapsodized about the monotone yarn of spiritual stasis in wave-washed landscapes. In a hidden place, "black-and-white" that mutated reel-by-reel from sepi to off-pink to harsh and flickery grey. Optically holocausted, festival-goers reeled out at the end, gasping for surgical masks and goggles themselves.

But there are miracles in cinema: the movie has now been to the cleaners (or Filmdom's laboratory equivalent) and it's a different and dazzling animal. It paves and swats you no less fiercely around the brain-cells. But now the puzzles and provocations are exciting, and the images themselves new-cleaned and thrilling; as Wenders teases

out the enigmatic tale of a group of people suddenly and Damascus-like dispossessed of their harmony of purpose. Faced with their own "end of the world" in miniature, they atomise into orphaned individuals. They wait for news from their fly-by-night producer "Gordon," who has vanished to Hollywood. Relationships crack and fracture. Waves claw at the empty swimming-pool. The sun sinks each day "like a ship."

And rising slow and whale-like out of this ocean's inertia is a marvellously potent fable about the place of structure in everyday life. What do you do when shape and purpose flee—whether in your professional life with a project or your emotional life with a relationship—and elemental nihilism surges at the sea-walls of your life?

Wenders flirts with man's-gotta-go stoicism as an answer. The movie-within-a-movie's lead actress (Isabelle Weingarten) is reading "The Searchers," with its epigraph tribute to the courage of those who simply stand and on, doing the next thing.

But the magnificence of *The State of Things* is in the way it has squeezed a shining, near-abstract magic from the very theme of "nothing to do." The broken plane and the sea, the terminal beach is an enthralling setting—and photographed with a fabulous geometry of light and shadow by French veteran Henri Alekan. And a soporific surrogacy leaps into all the empty cracks in the characters' lives. An actor (Jeffrey Kime) films his own mock-drowning in the bath. An actress (Rebecca Paudyal) pretenses the victim, complete with music stand, on the bleak and windy pool-edge. The script-girl (Viva) draws pencil landscapes or draws sooty critiques of the

"framing" in polaroid photos. The film's last section has the gauzy and broody director (Patrick Bauchau) whisking himself off to Hollywood to track down producer Gordon. He finds him played by paunchy and high-strung Allen Goowitz—hiding out in the mobile home with his friend Herbert and a dog, and a round-the-clock fear of his gangland creditors who want to kill him.

Suddenly, a touching down in California, we're re-routed into a "story." And with perfect logic the film's fascination with structure and void has taken on the further, final edge of a duel between narrative and non-narrative cinema, the "American" and "European" traditions. A movie that seemed in the retinal fog of its Venice showing to be a long runic doodle capped by a "Hammett's revenge" snipe at Coppola and Hollywood proves, with clear visibility, to be all-of-a-piece and about eternally fascinating varieties of art and life.

And now for several things completely different. *Airplane II* carries on where *Airplane I* left off, shaking its jester's cap-and-bells 30,000 feet and more above the ground. Peter Graves is again our captain, this time piloting the first passenger shuttle to the Moon. Scatter-brained slyph Julie Hagerty is once more at his side, offering coffee and comfort. Back in economy class, Robert Hays as the drink-fraught ex-test-pilot still subjects fellow passengers to his life story and ordeal-by-flashback. And down on Earth, Lloyd Bridges screws up his face ever tighter, resembling a dangerous lemming, as the sorely exercised chief of Mission Control.

Since as many of the gags take place in the background as the foreground, this is high-density zany in the best tradition of the British school of farce. Brothers, who could resist the briefly glimpsed poster for *Rocky 3*, in which an aged and wizened old bruiser stands glaring out at the airport lounge.

Peaky Party has one great acting asset. Daniel Peacock, who plays a gormless sexual go-getter who can't get going. Is this year's most promising recruit to the Leonard Rossiter School of Dislocated Jaw Acting. Peacock's ferret, eyebrow-twisting, rubber-chinned menace to partygoers is a delight. He also, unfortunately, helped to write the screenplay, for which, along with co-writer and director Terry Winsor (formerly of the National Film School), he must stay behind after class to be punished. Gale-force ribaldry, horrible colour filters and head-and-shoulders camerawork rule (not OK), as the young foregather to provide Britain's answer to Porky's.

ANTONY THORNCROFT

Britain Salutes New York

The most significant sponsorship of the arts by business opens on April 13 when "Britain Salutes New York"

Around \$1m has been spent by industry in financing the biggest overseas celebration of British arts, with local firms on the ground in New York spending another \$1m on co-incident events.

A British arts festival to celebrate the bicentenary of the 1783 peace treaty between the U.S. and the UK was first mooted by David Lloyd-Jacob, a former chairman of Amcon, the U.S. subsidiary of Consolidated Fields. He not only put energy into the idea but

Amcon has led the sponsors with \$500,000 which has gone mainly into administration and promotion.

Other major events will be 80 Holbein drawings from the Windsor Castle collection to be shown at the Pierpont Morgan Library, with Mobil as the sponsor, and masterpieces of British art from the Royal Academy collection, which BATS U.S. is bringing to the National Academy of Design.

In the contemporary arts Joint Stock, Hesitate & Demonstrate and the Impact Company are booked for New York; they will be a rock on cert, probably featuring Queen.

retrospectives of British television programmes at the Museum of Broadcasting, and a salute to British cinema at the Museum of Modern Art.

The arts in New York have responded to the idea. The New York Philharmonic is playing programmes of music by 20th-century British composers; the Opera Ensemble of New York is presenting Britten's *A Midsummer Night's Dream*; and the Harriet School of Art, Maxwell Davies's *Cinderella*. At least fifty art galleries in New York plan to show works by contemporary British artists.

The second most important sponsor is Gould Inc which also spent \$500,000 in transporting

representative sculptures by Henry Moore for what will be the largest exhibition of works by a living artist at the Metropolitan Museum.

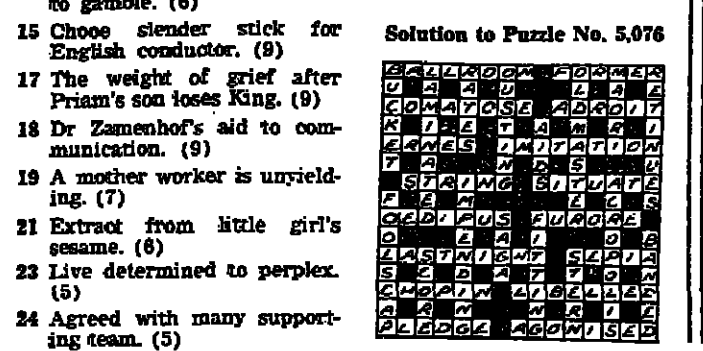
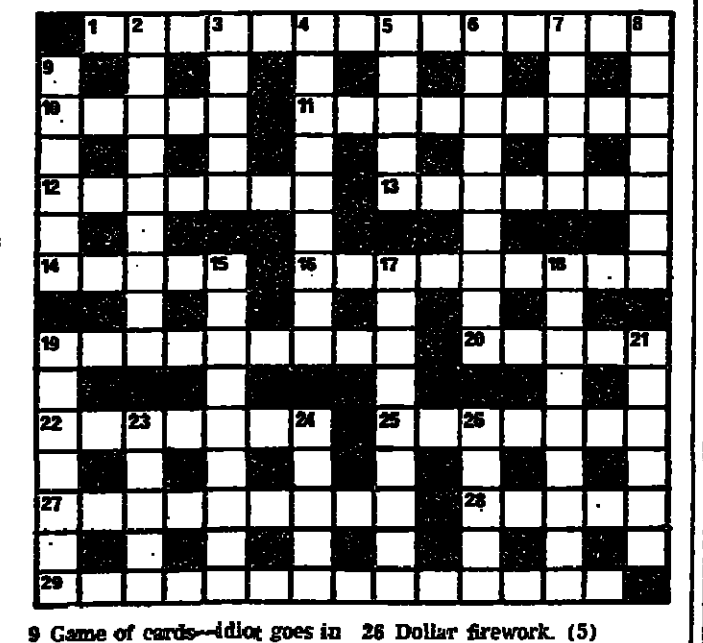
Britain Salutes New York, has attracted many new sponsors to the arts. C. E. Heath and Co. is helping to finance an exhibition of jewels by Fabergé, many from the Royal collection at Sandringham, and J. I. Miney is arranging a show of British book illustration, including works by Hockney and Hamilton.

The British Council has put \$100,000 into the event which obviously has good commercial implications for British exports.

F.T. CROSSWORD PUZZLE No. 5,077

- ACROSS
- Does it grow for the aristocracy? (5, 3, 6)
  - Sailor has no right to stop. (5)
  - Course tips? (9)
  - Desert. Canadian to press for divine punishment? (7)
  - Empty exhaust. (7)
  - Work oriental dress material. (5)
  - Boy and girl meet King of Kent. (9)
  - Teach unit manoeuvre to become trustworthy. (9)
  - Justice I would find tasty. (5)
  - Acidic bath with objection—America has strawberry tree. (7)
  - Where sisters advance? (7)
  - A graduate on the German wanted list? (9)
  - Boredom in Paris. (5)
  - Maybe famous at editor being ragged fellow. (14)

- DOWN
- Not one to fear heights! (9)
  - Prevent animals surrounding junction. (5)
  - Humiliation of a low position. (9)
  - Tricked by bad cheque going round school department. (5)
  - A corporal is in trouble without gunner in Athens. (9)
  - Dean entertains student by firebreath. (5)
  - Mistaken when we object quietly in the party (7)
  - Choose slender stick for English conductor. (8)
  - The weight of grief after Priam's son loses King. (9)
  - Dr Zamenhof's aid to communication. (9)
  - A mother worker is unyielding. (7)
  - Extract from little girl's sesame. (6)
  - Live determined to perplex. (5)
  - Agreed with many supporting team. (5)



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Music

LONDON

Swedish Radio Symphony Orchestra conducted by Yevgeny Svetlanov with Paul Tortelier, cello, Elgar and Dvorak. Royal Festival Hall (Mon), (0243191)

Cecile Ouse, piano. Beethoven, Liszt, Chopin, Faure and Debussy. Queen Elizabeth Hall (Mon), (0243191)

Royal Philharmonic Orchestra conducted by Antal Dorati with Jean-Philippe Collard, piano. Debussy, Ravel and Stravinsky. Royal Festival Hall (Tue)

The Fires of London conducted by Peter Maxwell Davies and John Carewe with Mary Thomas, soprano. Maxwell Davies. Queen Elizabeth Hall (Tue)

London Philharmonic Orchestra conducted by Bernard Haitink with Maurizio Pollini, piano. Mozart and Mahler. Royal Festival Hall (Wed)

English Chamber Orchestra conducted by Gustav Kuhn with Isobel Buchanan, soprano. Mozart. Queen Elizabeth Hall (Wed)

Philharmonia Orchestra conducted by Simon Rattle with Ann Murray and Alfredo Hodgson, mezzo-soprano and John Mitchinson, tenor. Mahler. Royal Festival Hall (Thurs)

Bernard Roberts and Yolande Wrigley, piano. Mozart, Tippett and Beethoven. Royal Festival Hall (Thurs)

Ronde Scott's Fifth Street Trumpeter and Humphrey Lyttelton and his band. All week

NEW YORK

Carnegie Hall: Orpheus, with Jan De Gaetani mezzo-soprano. Haydn, Britten, Wagner, Dvorak. (Mon)

Eastman Symphony Orchestra with Gaiji Ozawa, with Frederick von Stade mezzo-soprano, Nicolai Gedda tenor, Thomas Stewart baritone, the orchestra as Eva and Manfred Jung. Boston Boy Choir. Berlin: The Damnation of Faust (Wed), (2471459)

Avery Fisher Hall: New York Philharmonic, Giuseppe Sinopoli conductor. Ing. Malcolm Frager piano. Busotti, Mozart, Schumann (Tue); Zubin Mehta conducting, Yehudi Menuhin violin in the leading roles. Siegfried (Thurs), (8742424)

Marlboro Center Hall (87th W. of Broadway): New York Pro Arts Chamber Orchestra conducted by Raphael Frager piano. Busotti, Mozart, Schumann (Tue); Zubin Mehta conducting, Yehudi Menuhin violin in the leading roles. Siegfried (Thurs), (8742424)

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Opera and Ballet

LONDON

Royal Opera, Covent Garden: The repertoire consists of Samson et Dalila (Jon Vickers and Shirley Verel) returning to the magically beautiful Sydney Nolan sets of last season's new production and Der Rosenkavalier, with the well-rounded Marshall and Davidson of Gwyneth Jones and Yvonne Minton joined by Yvonne Kenny's first Covent Garden Sophie. Georges Pretre is the Saint Sauts conductor and Andrew Davis the Music Director.

Sadler's Wells Theatre: The New Sadler's Wells Opera inaugurates its first season as resident opera company of the house with new productions of Lohengrin and The Count of Luxembourg and The Mikado.

English National Opera, Coliseum: A long-awaited new production of Tchaikovsky's Queen of Spades by David Pountney shows off the principal trio of Graham Clark, Maria Storch and Sarah Walker, as well as conductor Mark Elder. Further performances of the company's impressive Otello and rather more ordinary sound Romeo and Juliet and La Boheme.

La Boheme conducted by Alain Lombard, produced by Richard Maillot with Leonia Mitchell and Helene Garretti alternating as Mimì with Faye Robinson in the role of Musette. Paris Opera (0425750)

WEST GERMANY

Berlin, Deutsche Oper: Arnold Auf Nazos produced by Rüdiger Belter brings together Janis Martin and Gerd Brenneis. Die Fledermaus has been interpreted by Gary Marshall and Gerd Zeumer. Madame Butterfly, conducted by Janos Kulka, has an all-Irish cast. Der Widerspäh mit Barbara Scherler and Peter Seiffert in the main parts rounds off the programme. (04381)

Hamburg Staatsoper: This week's highlight is Otello with Franco Donatoni in the title role, Piero Cappuccelli in the part of Iago and Ewa Marton as Desdemona. Die Zauberflöte features Harald Stamm and Elsie Hübner as Queen of the Night. Der Troubadour has Elena Obrazskova as Elvira. (0431151)

Cologne Opera: Der Freischütz benefits from a fine performance of Siegfried Jerusalem as Max. Hoffmanns Bräutigam has Edda Moser as Olympia. Die Heimliche Ehe conducted by Arnold Oestmann has Georgine Reizick and Claudio Nicolai. (043761)

Frankfurt Opera: Die Hochzeit des Figaro with Hans-Joachim Beinhorn as Don Basilio in a dramatic and well-paced performance. Parsifal, produced by Ruth Berghaus, is one of the most spectacular of current Wagner productions with Walter Raffeiner in the title role. (04321)

Stuttgart Württembergisches Staatstheater: premiere this week of a new production of Der Troubadour by John Dew, conducted by Lambert Gardelli with Eva Randova as Azucena and Juan Lloveras as Manrico. Der Freischütz has Catarina Ligendza as Eva and Manfred Jung. Die Lustigen Weiber von Windsor with Sylvia Gessy is a fresh and delightful revival. Hänsel und Gretel completes the programme. (04321)

Münster Oper: Siegfried Stappert: Two Wagner operas. Die Walküre and Siegfried both produced by Günther Hennert. Das Rheingold has Ingrid Bjoner and Peter Hoffmann in the leading roles. Siegfried René Kollo. Die Hochzeit des Figaro is finely interpreted by Hermann Frey and Judith Beckmann in the leading roles. Eugen Onegin stars Julia Varnay and Kurt Moll. Tosca, A Gitta Friedrich production, brings together Giorgio Lamberti and Ute Wewesow. (21551)

ITALY

Rome, Opera House (04384): Lohengrin conducted by Peter Maag (Wed)

Milan, La Scala (049126): World premiere in a new production by Franco Zeffirelli. The Nutcracker with Elisabetta Terzani. (049126)

Florence, Teatro Comunale (04284): The Nutcracker with Elisabetta Terzani. (04284)

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Vienna première

The Vienna Volksoper on Thursday stages the premiere of a concert performance of Der Kufveigen. The composer, Wilhelm Kienzl, born 1857, was for a time in the circle of composers around Richard Wagner and working in Bayreuth. His compositions, including two hardy-known operas, were primarily confined to piano works, and his compositions are being rediscovered and performed by the Volksoper.

Der Kufveigen will be conducted by Lothar Zagrosek and includes Adalberto Zago, Mirjana Isch and Robert Granzner.

NEW YORK

Metropolitan Opera (Opera House, Lincoln Center): First seasonal performance of La Boheme conducted by James Levine and staged by Franco Zeffirelli joins repertoire for the season of Adriana Lecouvreur, Les Contes d'Hoffmann, Boris Godunov and the last performance of Pelléas et Mélisande. (049126)

New York City Ballet (New York State Theater, Lincoln Center): The mixed repertoire includes works by Jerome Robbins, Peter Martins and company. George Balanchine. (049126)

WASHINGTON

Washington Opera (Terrace Theater, Kennedy Center): Andrew Porter's new translation of The Abduction from the Seraglio and evening of Trial by Jury, with the D'Oy Carte Company. (043670)

Stuttgart Württembergisches Staatstheater: premiere this week of a new production of Der Troubadour by John Dew, conducted by Lambert Gardelli with Eva Randova as Azucena and Juan Lloveras as Manrico. Der Freischütz has Catarina Ligendza as Eva and Manfred Jung. Die Lustigen Weiber von Windsor with Sylvia Gessy is a fresh and delightful revival. Hänsel und Gretel completes the programme. (04321)

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# Foreign banks in Australia

AUSTRALIA'S decision to open its doors to a limited number of foreign banks is long overdue. The local banking system has a reputation as being one of the most profitable and uncompetitive in the world and will benefit from a fresh breeze of foreign competition. Nonetheless, it is a brave move.

The initiative, which has been masterminded by Mr John Howard, Australia's Treasurer and deputy prime minister, is not going to receive bipartisan political support; and it has already ruffled the feathers of the local banking community which is worried about what the new entrants will do to their lucrative margins in areas like foreign exchange and domestic lending.

Allowing foreign banks to compete on an equal basis with Australia's big four trading banks, which together control nearly 90 per cent of the trading bank market, is one of the key recommendations of the 1981 Campbell Commission report on Australia's financial system—the first in 45 years.

## Efficiency

The dominant theme running through the report is that Australia will be better off in the long run if its banks are allowed to operate more freely and with less official intervention.

Increased competition in Australia's banking system will be good for efficiency. In the short-term at least competition is more likely to be spurred by the entry of foreign foreign banks than through the emergence of new domestic competitors.

While most Australians sympathise with the intentions of the Campbell report, it is now accepted that on the foreign bank issue, Campbell's arguments and proposals needed considerable refining before they could be implemented.

Campbell dismissed the need for local equity participation in foreign-owned ventures on the grounds of economic efficiency. He also ignored the fears of the big trading banks that they would be left running a large and costly foreign bank network while the foreign banks concentrated on servicing the handful of major corporations where the vast majority of Australians live.

Australian banks argue that foreign banks already control close to a fifth of the country's

financial assets through their stakes in local merchant banks, finance companies and money market operations. Foreign banks cannot issue cheques, and trade on the official foreign exchange market, but they can do virtually everything else.

The Australian banks are particularly worried that they will be put at a disadvantage because they still have to abide by official controls on certain parts of their business, while the foreign banks will be free to choose which areas they want to move into.

From the foreign banks' point of view Mr Howard has been as flexible as they could reasonably wish in framing his proposals. Banks will have to operate through subsidiaries and "provide a wide range of banking services and a reasonable branch network."

He also left the door open for foreign banks to have majority control of their Australian ventures where "the net economic benefits outweigh the general desirability of an effective partnership between Australians and foreigners."

In an effort to calm the fears of the local trading banks, Mr Howard has also reiterated the Government's view that "foreign banks should not have an unfair competitive advantage vis-à-vis existing domestic banks in their on-going operations."

If the government really means what it says it should speedily abolish the remaining controls over the local trading banks that they can meet foreign competition on an equal footing. With market rates below the official ceilings, it would seem a politically painful time to complete the process of interest rate deregulation.

**Ambition**  
 Provided the entry of foreign banks into the trading bank system proceeds (and with an election due before the year end this is by no means assured), Mr Howard will have gone a long way towards implementing Campbell's main recommendations and fulfilling his ambition to reform Australia's financial system.

One of the last major policy initiatives he has to take is to abolish Australia's foreign exchange controls and free the exchange rate. But on this score Mr Howard faces even more daunting opposition than he did on the foreign bank issue.

# Back to the engine room

THE SERPELL REPORT on the financial prospects for British Rail has already had a poor reception from the British Rail board, from some outside experts and, most significantly, from one of the committee's own members, and we cannot dissent from this judgement. It is an unhelpful report, and probably misleading in important respects.

However, the hard-worked committee is only partly to blame for this sorry outcome; its brief was vague but potentially far-reaching, and it was given far too little time to fulfil it adequately. We are now back where we began, with a loss-making railway, and no official transport policy. As the committee points out in its most telling (and unanimous) finding, it is hard to expect efficiency from British Rail until it is given a clear policy direction, and the resources to carry it out.

## Trenchant

What went wrong, apart from haste? In a trenchant paragraph in his minority report Mr Alfred Goldstein observes: "The history of railways in Britain is not short of inquiries, whether by committee, commissions, departmental or inter-departmental groups. A fair question would be to consider why the present committee and its work should lead to a much improved railway."

"I had hoped that one of the reasons would be that we would examine the railways from a quite fundamental standpoint: that we would recognise that while finance was our raison d'être, many issues were essentially transport issues."

These hopes are clearly disappointed, and this is the fundamental weakness both of the report (which takes too short a view, for the most part) and of its remit, which is too closely limited to financial forecasting. Railway policy cannot be discussed in isolation, even in financial terms, without an analysis of the reasons why railways everywhere lose money, and yet are thought worth sustaining.

The brief discussion of this question in the report is completely valueless, since it treats railway subsidy as a matter of social rather than of transport policy, and discusses costs

without even mentioning benefits. Yet the whole raison d'être of subsidised railways is a transport question, the need to provide a service which grew up before the railways faced serious road competition, the need to avoid congestion and the costs of alternative solutions, the fact that the railways, thanks to large unachieved economies of scale outside commuter peak hours, can offer benefits to users which exceed the cost of subsidy. These issues are almost entirely ignored except in the minority report, which at least draws attention to some of them.

A forward plan for 20 years must also take account of another fact: the urban structure which grew round the railways is now changing rapidly. People and jobs are moving out of the conurbations on to the motorway network, creating a problem of inner-city decline of which railway losses are only one aspect.

It would be unfair to ask a four-man committee to confront the whole of this complex and obstinate challenge to government; but at least a fact which is now a matter of obsessive concern in the property world should be recognised for its traffic implications. The financial projections in Serpell seem to rely on an unchanged pattern of urban life and travel, and are thus invalidated. Unfortunately the technical suggestions and their possible financial results are also challenged, both by the board and in the minority report.

## Impossible

Is anything of value left? The finding that some parts of the network are disproportionately expensive is hardly new, but it is telling, a really full analysis, impossible in this timescale, would almost certainly suggest closures, and quite modest ones would produce major savings. Mr Goldstein also has some pithy suggestions on management: if the Department is dissatisfied with the board policies it should change the board rather than recent efforts get encouraging marks. But this is still a play without a protagonist. A policy, please, Mr Howell.

**Q**UITE THE worst paragraph of the Franks Report on the way the British Government discharged its responsibilities in the period leading up to the Argentine invasion of the Falkland Islands is the last.

The latter part of it runs: "If the British Government had acted differently in the ways we have indicated, it is impossible to judge what the impact on the Argentine Government or the implications for the course of events might have been. There is no reasonable basis for any suggestion—which would be purely hypothetical—that the invasion would have been prevented if the Government had acted in the ways indicated in our report. Taking account of these considerations, and of all the evidence we have received, we conclude that we would not be justified in attaching any criticism or blame to the present Government for the Argentine junta's decision to commit its act of unprovoked aggression in the invasion of the Falkland Islands on April 2 1982."

It is the use of that word "any" in the final sentence which sticks in the gullet. No criticism, no blame for what Lord Carrington, the resigning Foreign Secretary, called a "national humiliation" and has led to what the Prime Minister described this week as no alternative to a policy of "Fortress Falklands" for the foreseeable future?

The conclusion totally defies the evidence of the report and it is a mystery why that final sentence should be there. On the specific question of whether the invasion could have been forestalled, the only justification of the Government's conduct to emerge from the report is that it could not reasonably have been expected to take place as early as the beginning of April. It had been reported for years that some kind of Argentine military action, perhaps falling short of direct invasion, was a possibility and it was well known to the Foreign Office early last year that the situation was becoming unusually tense. The sole surprise was the timing.

For the rest, the Franks Report is a chronicle of government errors, of a government machine which is not well oiled, and of a weakness in the British position which was well concealed only because most people chose to ignore it.

Every official and every minister who had to do with the Falklands over the years came to the conclusion that it would be difficult to defend the islands against an Argentine invasion and that at some stage an invasion might be launched. That goes not just for those who might be described as liberals, appeasers or defeatists. Mr Nicholas Ridley, the Foreign Office Minister who sought to negotiate a settlement, would not normally be placed on the left wing of the Tory Party. Neither would Mr Ray Whitney, the former diplomat and now Conservative MP who bravely urged caution in that famous House of Commons

debate of Saturday, April 3. Mr Whitney had learned from his diplomatic experience the intractable nature of the problem. The single major criticism of the Foreign Office to emerge from the evidence of the report seems to me to have long been aware of the difficulties, but that it was reluctant to draw them to anyone else's attention. That is a telling accusation, but there must be some sympathy for the Foreign Office approach. When Lord Carrington analysed the problem in 1979, Mrs Thatcher didn't want to know about it. He came to the conclusion that both the "Fortress Falklands" option and that of continuing talks with Argentina without making any concessions on sovereignty carried a serious threat of invasion. He preferred substantive negotiations on sovereignty to the Prime Minister and other members of the Defence Com-

mittee to that effect. Mrs Thatcher postponed the discussion. The former Foreign Secretary is criticised elsewhere in the report for refusing to back a proposal for an active campaign to "educate" British and Falklands opinion in favour of a change in the islands' status. Possibly he was too timid, but again one can understand the reasons. Lord Carrington foresaw the likely reactions from Mrs Thatcher, from the rest of the Tory Party, from the Labour Party and from the islanders themselves to any suggestion of a British sell-out and chose not to risk them. The report suggests, with the wisdom of hindsight, that he was wrong, and I have heard some foreign policy experts agree. But I wonder. Even if the Foreign Secretary had fought the matter to the point of resignation in 1981, it seems

to me that the case for conciliation would still have been lost. The keep the Falklands British lobby would have been strengthened and, with it, the risk of a military confrontation with Argentina sooner or later. It was better to seek to do good by stealth in the hope that "aggressive" might succeed, despite the fact that Lord Carrington knew that this might be no more than an exercise in playing for time. Subsequent reaction in Britain to the Argentine invasion and to the British response suggests that the Foreign Secretary was right. A campaign to "educate" opinion in favour of diminished British sovereignty over the Falklands would have not nowhere and may even have been counter-productive. Where the Foreign Office scores on the evidence of the report is in producing, by and large, an accurate analysis. It knew that the British position was difficult, it warned that

there might be an invasion one day and it outlined the policy options. It was not the Foreign Office, for example, which wanted to withdraw HMS Endurance, a decision of which the Franks Report is especially critical. It was the Ministry of Defence, under pressure from the Treasury to cut costs. The Treasury was backed by the Prime Minister, as no doubt Sir John Nott, the former Defence Secretary, will some day testify.

Provision of analysis for policy-making is one of the Foreign Office's main tasks. Now that it has been shown to have been broadly right on the Falklands issue, I hope that the attacks on the department will stop.

As it happens, there is some evidence that a reconciliation between Mrs Thatcher and the diplomats was taking place even before the report was published. A turning point came last week when the Prime Minister needed to be briefed on Cruise missiles and related matters for her television interview on Weekend World last Sunday. She was much impressed by Foreign Office officials.

Anyone who watched the programme closely will have noted the intense concentration with which she described the history of the Geneva negotiations on intermediate nuclear forces. "Could we just go on a little longer?" she asked, afraid that the subject might be prematurely changed. In fact, she had virtually memorised a Foreign Office brief.

There are some important points here which go beyond presentation. The Prime Minister has been persuaded that nuclear weapons are a major electoral issue which cannot be handled simply by the old rhetoric. There have also been some changes of substance. Mrs Thatcher no longer talks as if there is no alternative between the zero option and full-scale deployment of cruise missiles.

Mr Francis Pym, the Foreign Secretary, acknowledged that some time ago and officials have known it all along. As the Prime Minister agreed with her interview on Sunday, the negotiations with the Soviet Union, "we may not get immediately to zero-zero." She added: "There is nothing new in that. It is an aspect which has not been highlighted by the commentators. It was inherent in the original decision in December 1979 and in the negotiations since. Totally inherent in it."

Mrs Thatcher was wrong about the commentators. Anyone who has followed the negotiations always knew that the zero option was an opening position and that the aim was to achieve a mutual scaling down of the numbers deployed. What is new is that she is now taking the talks seriously and appreciating their complexity. For that she needs the Foreign Office.

One other subtle change in the Government's approach to arms control was detectable at

the weekend when Mr Michael Heseltine, the Defence Secretary, appeared on Channel 4's Face the Press. He met every question about unilateral disarmament by referring to "one-sided disarmament. The two terms mean the same thing, but there is a world of difference between them in getting across to a wider audience."

The rapprochement between No. 10 and the Foreign Office still has some way to go, but there appears to have been some progress on the Middle East. A basic problem here is Mrs Thatcher's deep-rooted belief that the Palestine Liberation Organisation is still essentially a terrorist organisation rather than as some Ministers would say nowadays "more killed than killed." Yet the Prime Minister has been made aware that the refusal to receive the mission led by King Hassan of Morocco because it included a senior PLO official has led to acute diplomatic difficulties.

Incidentally, there is also a King of Morocco problem since he took umbrage at his proposed engagement with Mrs Thatcher and dinner with the Queen. Hard to know what more to offer. But it seems that a meeting is being put together again.

Consideration is being given to a new major British policy statement on the Middle East, possibly coordinated with the French. The nearest precedent would be Sir Alec Douglas-Home's speech as Foreign Secretary in Harrogate in 1970 when he set out a broad framework for a settlement. Yet at present that is just a thought.

Europe, that other great source of friction between Mrs Thatcher and the Foreign Office, is still to come, and it is impossible to say which way it will go. It would also be wrong to claim that the relationship between the Prime Minister and Mr Pym has become in any way a comfortable one. The Foreign Secretary over-reacted to the appointment of Sir Anthony Parsons as a special adviser at No. 10. In fact, as former diplomat and Arabist, Sir Anthony's presence is a helpful one, and he played a soothing role on the Middle East. But at the beginning it rankled.

What has happened now is a kind of truce with both sides recognising that they need each other. "That's all to the good," though it could be better. Mr Pym is unlikely to cheer up completely so long as sources close to Mrs Thatcher continue to snipe at him.

Last week The Economist (of all papers) reported of the Prime Minister's visit to the Falklands: "Amazingly, even the Foreign Office was not informed until a Downing Street duty officer rang to say that Mrs Thatcher was on her way." Anyone who knows anything about communications must recognise that as untrue. Yet it is a telling illustration of the "Mrs Thatcher v the Office."

## POLITICS TODAY

# A truce with the Foreign Office

By Malcolm Rutherford



4 There must be some sympathy for the Foreign Office's approach to the Falklands problem. When Lord Carrington (above) analysed it in 1979, Mrs Thatcher didn't want to know.

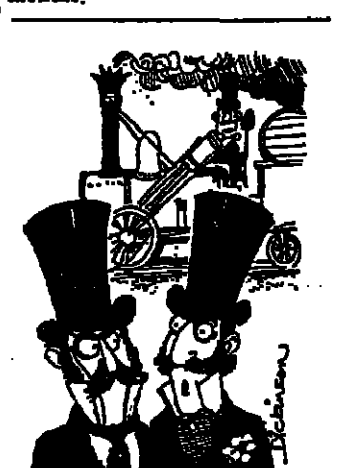
## Men & Matters

### Balancing act

Robert Jackson, the 36-year-old Conservative member of the European Parliament, was handed the month's poisoned chalice yesterday when he was appointed a rapporteur for the Parliament's key budget committee. This puts the lanky Fellow of All Souls firmly in charge of steering through the Parliament the controversial supplementary budget designed to pay back to Mrs Thatcher £490m of the money the UK handed over to the EEC last year.

There are already doubts whether the necessary majority can be mustered to get the money into London by the end of March. If it is not in the Treasury by then, it is five pence to the monthly transfers to Brussels.

Somehow or other, Jackson has to represent faithfully the somewhat prejudiced views of his colleagues on the budget committee without undermining the UK's chances of getting its money in the next couple of months.



"He's mad—thinks that in the future they'll be run as a social service."

### Credit account

Though the governor of the Bank of England, it seems, has to mind his Ps and Qs, other central bankers are less inhibited.

Erik Hoffmeyer, governor of the Danish central bank, who two years ago compared the conduct of the Danish economy to the rake's progress, has now likened the public's attitude to the country's enormous foreign debt—Dkr 30,000 (£2,370) for every man, woman and child and about 30 per cent of the GDP—to the alcoholic's approach to his next drink.

Whenever the issue of the country's creditworthiness is raised, Hoffmeyer says, all the media wants to know is whether it is possible to get another loan, to which the answer is always "yes."

"This is like the drunkard who asks if one more drink will kill him," the governor says. Hoffmeyer asked his wife, whether she thought it would help if he went on hunger strike until there was an improvement in the current balance of payments deficit.

She replied that he would be dead long before the external balance was improved by a single krona—and if any politicians attended his funeral, they would wipe away imaginary tears and conclude that the

balance of payments had been buried as well.

It would rapidly be resurrected, however, says Hoffmeyer, apparently confirming that his opinion of Denmark's creditworthiness is no better if less orthodox than the American agency Standard and Poor's which has reduced the kingdom's rating from triple A to double A plus.

### Parting words

Sad to hear of the end of that sparkling labour/literary partnership between Clive Jenkins and Barrie Sherman—but I am cheered by the news that divorce will not affect their fecundity.

Jenkins, the not-quite-so-bouncy-as-he-used-to-be general secretary of the white-collar union ASTMS, is now writing a book about unemployment and says he is touring the country conducting in-depth interviews on the subject.

Sherman, made "amicably" redundant from his job as ASTMS research director after a tiff with Jenkins over a TV series, tells me he is set to work a 16-hour day on leisure pursuits.

He has been hired by the Henry Centre for Forecasting as an associate director, and will work with the Centre's team which produces "Leisure Futures," the publication which looks forward to a world with little work and much free time.

Sherman is also finishing a book about computers, starting another trade union ("unions face real difficulties now; the halcyon days of the 1960s won't come back again, or if they do they won't be as halcyon"), producing the Channel Four TV series that caused all the trouble, giving lectures at London Business School, and contemplating two novels.

One of the novels, he says, will be set within a union which may have certain similarities to ASTMS. Will Clive figure in it? "If he does, he'll be a woman,"

says Sherman, displaying powerfully inventive imagination at an early stage.

### Berlin welcome

Conductor Herbert von Karajan appears to be coming out on top in a heated dispute with the Berlin Philharmonic orchestra over the musical merits of a young Munich clarinet player, Sabine Meyer.

He wants for the orchestra, "inspired." But the orchestra, which has the right of veto, turned her down saying she was a good soloist but not a good team player.

As the row rumbled on, the angry 74-year-old maestro told the orchestra he was suspending all tours with the Berlin Philharmonic including its appearances at the Salzburg and Lucerne festivals, as well as television, film work, and recordings—all of which are a gold-mine for the participants.

Now Dr Peter Girth, conductor of the Philharmonic, has announced that the attractive clarinetist is to be given a contract and will thus become the second woman ever to join the orchestra.

The orchestra remains unmollified, however, says my man in Berlin, and is corporately threatening to go to court if its rejection of Sabine Meyer is not confirmed by the West Berlin city cultural administrator.

As for von Karajan, who has conducted the Philharmonic for nearly 30 years, he is playing the musical power game from his winter home in St Moritz.

### Sideslip

Heard about the male crab who arrived home late one night and was confronted by his angry mate? "I know you're drunk," she complained, "you walked straight up to the front door."

Observer



## A green earth or a dry desert?

There may still be time to choose

The World is destroying its tropical rainforests. Half the forests have gone, and the speed of destruction is accelerating. If this continues we will lose for ever the earth's greatest treasure house of plants and animals, perhaps our most valuable natural resource for the future. In the next 25 years the vast forests of Malaysia and Indonesia could be gone forever, leaving erosion to turn a green paradise into a barren wasteland.

It's happening partly because the local people depend upon the forests for their immediate needs for survival, partly because of demand in the developed world for tropical timbers.

In 1980 the WWF and other authorities published a plan for developing resources without destroying them. We need your help to ensure that it is put into action. Write to WWF for more information. It could be the most important letter you ever write.

World Wildlife Fund - UK, Panda House, 11-13 Oldfield Rd., Godalming, Surrey GU7 1QU.

WWF FOR WORLD CONSERVATION



## CRISIS FOR WORLD SHIPPING

## 'There are just too many ships'

By Andrew Fisher, Shipping Correspondent

THE WORLD shipping crisis, the worst in living memory, is straining the resilience of even the toughest and most ebullient owners. The biggest and financially strongest are determined to survive, but they believe that many others will not.

"The waters are rising up against the dike," says Mr Gregory Callimachopoulos, head of Hellenic Lines. Comments Mr Frank Chao, head of Wah Kwong, with a major Hong Kong fleet: "As far as the shipping market is concerned, I'm very worried; as far as Wah Kwong is concerned, I'm not."

Freight rates are in the doldrums, lay-up and scrapping figures at record levels, and little chance is seen of an early U.S.-led economic recovery. About 12 per cent of the world fleet is idle.

The crisis is putting a strain on bankers as well as shipowners. For example, the London and of Colonial Bankers of the U.S. ran into trouble over loans to Greek shipowners which meant losses for the overall group of \$15m to \$19m last year.

In all, international banks have an estimated \$50bn to \$60bn of mortgage loans on ships and a further \$25bn on vessels still being built. A quarter of that could be at some risk, some leading shipping bankers feel.

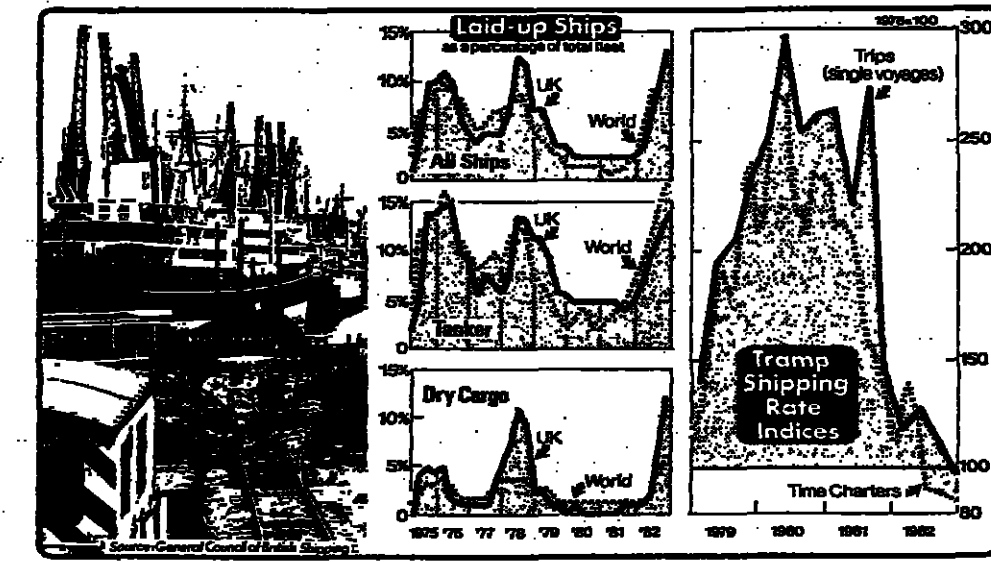
## North European fleet will emerge much reduced

The banks are hoping to nurse their shipping borrowers through the next year or two by restructuring debt when possible.

"We try to make sure there is enough cash to keep an owner going over a three to four year distress period," according to Mr James Wallace, vice-president of America's Citibank.

"Even so," he adds, "in a down market cash can't last forever."

The crisis could therefore mean some significant changes in the shape of the world shipping industry. Mr Atle Jensen, a leading Norwegian owner, believes North Europe fleets—in the UK, Norway and West



Germany—will emerge from the recession much reduced and with more specialised vessels.

For example, Hapag-Lloyd, the big West German shipping and transport group, announced in December a major and costly reorganisation. It is completing its withdrawal from tanker and bulk shipping, the two most hard-hit sectors of the industry, and is fixing up a DM 110m sale and leaseback deal on its Hamburg headquarters. Operating and other losses from the reorganisation of some DM 300m (\$120m) are likely to have to be met in its 1982 and 1983 accounts.

The UK fleet has dwindled sharply in recent years as a result of the tanker crisis, over-investment, and world recession. Shipowners are seeking help from the Government and the sale this month by loss-making London and Overseas Freighters of four bulk-carriers for \$50.6m shows how severe the cash needs of many owners have become.

Nedlloyd, the Dutch group, is considering the withdrawal from service of about 12 of its older, non-container vessels.

In the Far East, too, companies are feeling the pinch. Ednasa, a small Hong Kong operator, sold seven assorted cargo ships on the second-hand market a few weeks ago for

\$22m. Companies in Japan, with one of the world's largest fleets, are highly cautious about investing further. Mitsui O.S.K. Lines, for example, sees no upturn for some time "and certainly not in the short term."

The effects of the recession have been exacerbated by an over-optimistic ordering of new vessels in the 1970s. The industry is having to face up to "the realities of its own long investment decisions," according to Mr Paul Slater, an independent operator in the finance field with U.S. institutional backing.

Citibank's Mr Wallace adds that owners have shown a "voracious appetite" for new ships "when just a glimmer of cargoes to be carried appears on the horizon."

An excessive supply of ship-building capacity is "probably the origin and continuing cause of the shipping crisis as we see it today," according to Hapag-Lloyd's Herr Kruse.

All these forces have, of course, hit the three major types of shipping market in different ways.

● The tanker market crisis has been the most prolonged and there are now some 70m dwt of oil-carrying vessels idle out of a total fleet of some 300m dwt. More than 25m dwt were sold for scrap in 1982. Oil

majorities such as Exxon, British Petroleum and Texaco have also been shedding tonnage.

With energy demand down and the long-haul routes from the Middle East less important as provinces such as the North Sea and Alaska have been opened up, demand for big tankers has fallen dramatically.

● The bulk market, handling commodities like grain, iron ore and coal, is suffering badly from weak rates and surplus tonnage.

In January 1981 the rate for moving 55,000 tons of coal from Hampton Roads on the U.S. East Coast to Japan was \$28.50 a ton. By August it had collapsed to \$11.20 before firming slightly to \$12 last month.

Admittedly the January 1981 rate was unusually high—in part the product of port congestion at Hampton Roads. But the heavy trade taken of future coal trade prospects encouraged many owners to order new bulk tonnage. Those ships are now coming on to a highly depressed market.

The bulk carrier fleet of 154m dwt at the start of 1982 could approach 180m dwt by 1985.

Several owners have postponed deliveries. And lay-up figures for tankers and dry cargo ships have risen astronomically. Figures from the General Council of British Shipping (GCBS) show that

51.5m dwt, or 12 per cent of the world fleet was idle at the end of November against just under 23m dwt the year before.

Equally alarming is the trend of the tramp trip charter index (1976=100) prepared by the GCBS to measure single voyage rates by general cargo carriers. This was 97 for December, having been as low as 78 in August, the peak was 275 in April 1980.

Mr Frank Narby, the Swiss-based head of Cast which survived last summer with a \$200m rescue package from banks and shareholders, says that "there are too many ships out there and no damn demand."

Cast, controlled from Canada with Mr Narby the main shareholder, was in the midst of a \$400m expansion programme when the financial storm hit. Its operations span container and bulk shipping and it was the collapse in bulk rates which caused most of the trouble.

Rates have not bottomed out in his view. Until there is an upturn—possibly within three years—"a large number of us will have a very miserable time, paddling along, not doing very much and keeping our heads above water," says Mr Narby.

● Among liner operators, now mostly computerised, there is general agreement that this year will remain fairly flat. Several have spent large sums on updating fleets and equipment. Hellenic, the large Greek line, has invested \$300m.

American President Lines (APL) \$600m, Overseas Containers Ltd (OCL) \$260m, and Evergreen of Taiwan is in the throes of a vast \$650m programme.

APL's Mr W. Bruce Seaton, president of the Natomas subsidiary, is sanguine about prospects on the Pacific, between the U.S. and growth-oriented Asian economies—"we're not overcome with gloom and doom." He accepts that 1983 will probably be a hard year, but "we're not about to jump over the bridge."

San Francisco-based APL recently took delivery of the President Lincoln, the biggest container ship ever built in the U.S. and the first from there with a diesel engine. The Washington and Monroe will follow next year.

These highly automated ships, saving 30 per cent on steam turbine vessels, show how groups have to invest to maintain their presence on world routes.

Sea-Land of New Jersey, another big investor, is benefiting from lower costs as a result of new tonnage and shore facilities.

At OCL, the British group owned by three major shipping companies, the mood is fairly subdued. OCL is a major trader to the Far East and ports in between and in the view of its new chairman, Mr Kerry St Johnston, "it will be definitely into 1984 before anything really significant happens."

Back in the summer, he hoped 1983 might see some upturn. "For most people like us, in the liner business, it's going to be a highly competitive, hard year," Mr OCL intends to spend in the next five years around \$160m on such asset replacements as containers.

Apart from the big spending by Evergreen, a major non-conference outsider which recently reached a rate accord with the powerful Far Eastern Freight Conference, the main worry of container lines is the \$770m investment in 14 massive container ships planned by U.S. Lines.

The order, with Daewoo of South Korea, is still clouded with some uncertainty, not allayed by the secretive U.S. Lines which is headed by container pioneer Mr Malcolm McLean. With the associated land

## All sections of the industry face a rough passage

facilities and containers, the investment would be well over \$1bn.

The deal would put a huge slice of extra capacity onto an already over-supplied market.

"A megalomaniac idea" and "the most irresponsible thing in the last decade" are some critical views from other leading liner operators.

Whether or not the deal goes ahead, all sections of the industry clearly face a rough passage in the next few years—and the attitude of their bankers could be crucial to survival.

Says Mr Michael Revell, director of Shipping at Marine Midland Bank of the U.S.: "We are saying to our clients, 'plan for a depression as bad as we have now for two years.'"

## Lombard

## The faded lure of cheap oil

By Nicholas Colchester

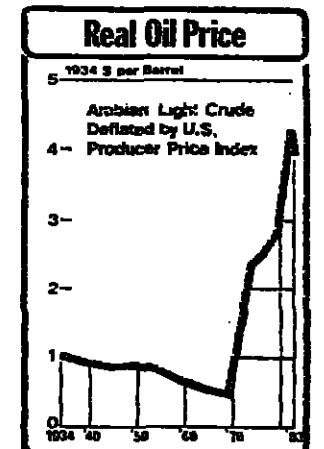
THE STRAINS in the world credit system have shown how adapted to, and almost dependent upon, inflation the world economy has become. Now similar warnings are being voiced about the oil price. The rise in the price was painful, say the pessimists, but the world has since invested so much in the higher price that a fall will hurt too.

Mexico's predicament is at the heart of this argument. Its extravagant pyramid of debt was built upon oil and was therefore undermined when the oil market weakened. The resulting debt crisis shook the international banking system. Mexico's finances were propped up just in time but they certainly remain in no fit state to withstand a substantial fall in the oil price.

The Mexican debt crisis led straight to the Brazilian one. This was a cruel irony, for a substantial part of Brazil's cumulative balance of payments deficit during the 1970s had been due to the Eiger-like rise in the oil price shown here. In fact, the global debt statistics show how perverse it would be if a fall in the price of oil set the dominoes of international debt tumbling. At the end of 1982, according to the OECD, the total disbursed gross foreign debt of the developing countries will be around \$826bn (\$401bn). Of this, roughly \$190bn is owed by the Opec countries and Mexico, implying that the exposure of countries which want the oil price to remain high is still considerably smaller than those which have to import oil.

The case is more finely balanced if one concentrates upon the countries whose debt looms large in the discussions of bankers—Mexico, Brazil, Argentina, Venezuela, Poland, Romania, Yugoslavia, South Korea, the Philippines and Nigeria. Of these, the oil importers have bank debt of \$38bn, the exporters \$88bn, while Argentina, with debt of \$22bn, is self-sufficient.

A fall in the price of oil should put debt on a firmer footing by stimulating the world economy. Using an OECD model, Simon and Coates, the London stock-brokers, estimate that a \$3-\$4



fall in the price of crude oil would add between 1 and 1 per cent to the combined GNP of the OECD countries if the lower price were sustained over a full year. A stimulus of this order would compensate for a halving in the recent growth rate of bank loans to the developing world, or would have the same impact on the OECD economies as a 2 per cent fall in interest rates across the spectrum of maturities.

Of course the "oil-price-up" lobby is much wider today than it was ten years ago when its extreme narrowness created the need for the recycling of large sums of oil revenue. The whole of Britain's North Sea industry, the French nuclear programme, Brazil's lively export trade to Nigeria, the shrinking of Opec's share of world oil production from 48 per cent to 35 per cent since 1979—these are all phenomena which are sustained by, and tend to limit, the rise in the price of oil. They are all jeopardised by weakness in the oil market.

Yet the overall debt figures and the OECD model suggest that old losers from a high oil price still outweigh the new gainers. This means that a slide in the oil price will be of net benefit to the world economy provided that the collapse of a new gainer, like Mexico, is not allowed to destroy confidence. It will be of little consolation to see most of the chain of world credit strengthened if one link is snapped in the process.

## Letters to the Editor

## Control over councils' capital expenditure

From the General Manager, Harlow Council

Sir,—I am pleased to see that you have now joined those who are supporting the abolition of central government control over local authority capital expenditure. This is a complex issue which the abolition of any particular control mechanism, though welcome in its own right, is unlikely to do much to resolve. But it is clear that control over new capital expenditure is counter-productive to macro-economic management since it tends to depress expenditure below any given national planning level and adds to the uncertainty already inherent in decisions concerning the medium-term outlook for the economy. The large sums spent on capital allocations in this financial year has significantly depressed demand in the economy below the level planned by the Government.

This is because the allocations, particularly housing, bore little relationship to what councils actually wished to spend. In the past it has been an increase in public sector capital expenditure which has been the means of recovery from recession, expenditure which besides its direct benefit to the construction industry tends to have a lower impact content than other forms of economic pump-priming. It is going to be much more difficult to achieve this boost now because of the present much tighter network of controls.

Controls on capital expenditure are also unnecessary in order to reduce local authority expenditure as long as the following revenue expenditure consequences rest substantially with the councils concerned. In this respect the changes made by the Government to housing subsidy arrangements have

brought home directly to Councils for the first time since the 1920s the cost of financing new housing schemes and this will continue to keep new public housing investment at a relatively low level.

The Government could abolish all capital expenditure controls without major consequences for economic management or for local government revenue expenditure. Abolition would allow councils to plan their own capital programmes in a rational and sensible way and would give the opportunity for an overall review of the situation so that the capital expenditure plans of local authorities could return from the Alice on Wonderland world of the present situation to a closer approximation to the real world. Martin Eastaill, Town Hall, Harlow, Essex.

## Sponsorship of the arts

From Mr M. R. Smith

Sir,—The controversy surrounding the appointment of the director of the Association for Business Sponsorship of the Arts as Secretary-General of the Arts Council has attracted some attention to arts sponsorship, revealing a number of misconceptions regarding sponsorship.

Three main misapprehensions have emerged. First, there is the fear that sponsorship results in "commercialisation" of the arts, ie exploitation by business in a manner detrimental to the arts. Arts sponsorship depends upon an equal relationship between business and the arts, out of which image related benefits can accrue to the sponsor. If this balance is upset then those benefits will not be forthcoming. The independence of the arts is one of the principal concerns of sponsors.

Second, the scale of arts sponsorship is not as inconsequential as has been suggested. In some cases business sponsorship can account for as much as 20 per cent of an arts organisation's funds.

Finally, it should be noted that the implied polarity of business and the arts is inaccurate. Arts organisations function as businesses; applications for Arts Council grants must be accompanied by a detailed budget demonstrating an anticipated deficit.

It is to be hoped that Mr Rittner's appointment will lead to the Arts Council adopting a more constructive approach to business sponsorship. As for Mr Rittner's suitability for the post, he will be judged by his results. His past record suggests that his new role will be of immense value to the arts in Britain. M. R. Smith, Manchester Business School, Booth Street West, Manchester.

## Savannah Gold Spirit

From Mr John Friedman

Sir,—The beverage described in the article of the 12th inst is no doubt rum as it is made from sugar cane. Whilst most rums are made from sugar cane molasses, there are brands which are made from sugar cane juice, but no doubt the correct description is still "rum."

John Friedman, 20 Boydell Court, St John's Wood Park, NW8.

## Concern over mergers

Sir,—Mr Anthony Nelson MP (January 19) is quite right in saying that my proposal to change the question in merger inquiries would be dangerous. But the danger would be to the continued complacent absence of a policy which would actively maintain and encourage effective competition.

The mergers about which there is justifiable public concern are those involving companies which are already either absolutely large and/or have substantial market shares. Such mergers inevitably reduce one dimension of competition by diminishing the number of independent competitors. The question is whether the current law gives that fact anything like enough weight.

Mr Nelson evidently believes that the Exchange pressures work so perfectly that they can be left to deal with any problems created for shareholders by the exciting merger activity favoured by their directors—and their merchant bankers. But the evidence is that relative profitability does not typically improve after such mergers. What are shareholders supposed to be capable of doing about that?

If Mr Nelson wishes there to be enough effective competition left to justify his extreme laissez-faire—or is it just laissez-Minister?—approach, then surely he too should be pressing for a policy which would genuinely favour more competition rather than less. Alister Sutherland, Trinity College, Cambridge.

## National Gallery competition

From Mr Rod Hackney

Sir,—Your architectural critic, Colin Amery, in his article on the final result of the National Gallery competition (December 31), overlooked mentioning that the Richard Rogers design, which he so evidently disliked, received by far the highest number of first choice votes cast by members of the public attending the exhibition of the seven short-listed designs last August.

It is clear therefore that Mr Amery's vitriolic comments (August 31) were not the views of many members of the public, who did not see the Rogers design as an example of, to use Mr Amery's own words, "the true spirit of punk, modern buildings designed as deliberate insults, as affronts, as crude and coarse expletives; that expose the realities of modern life."

In fact, nearly one-third of those voting found the Rogers design exciting, and the one they hoped would win.

So, while one might have questioned at the time the wisdom of the comment by Owen Luder, the President of the Royal Institute of British Architects, it now appears many more people agreed with his view than Mr Amery expected. Far from being "a moment of highest comedy" Mr Luder's comments stirred a level of interest and debate rarely seen on architectural issues in this country. That has to be welcome. The result also shows, not so

much that this competition was too important to be left to the architects, as suggested by Mr Amery but that it was too important for it to be left just to the architectural critics. No longer will they be able to trot out their tired old phrase "the public hate modern architecture." The National Gallery voting proves that a considerable proportion given a clear opportunity to speak for themselves, like it. Rod Hackney, Drawing Office, 214 Black Road, Macclesfield, Cheshire.

## Worker participation

From Mr S. W. Penwill

Sir,—Mr M. O. Layton (January 13) cannot distinguish between proprietorship and employment. He is presumably a member of a union and as such is a part proprietor and entitled to participate in the direction of its affairs.

An employee is not in the same category but can become so if he becomes a shareholder in the company by which he is employed. There is already legislation to enable this situation to be accomplished.

Fuller participation should be encouraged in both fields—shareholders and union members have only their apathy to blame if the conduct of their companies or unions is not to their liking. S. W. Penwill, London International Press Centre, Room 5.23, 76 Shoe Lane, EC4.

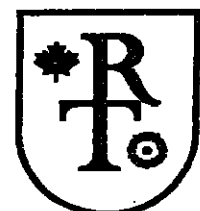
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# FINANCIAL TIMES

Friday January 21 1983

**BELL'S**  
SCOTCH WHISKY  
**BELL'S**

## NATIONAL SEMICONDUCTOR MAKES WAY FOR FRENCH ELECTRONICS SHAKE-UP

### Thomson absorbs Eurotechnique

BY DAVID MARSH IN PARIS

THOMSON, the French state-owned electrical conglomerate, has agreed to take over Eurotechnique, the Franco-American semiconductor company, in a key move to restructure the French electronics components industry.

National Semiconductor, the U.S. electronics company which at present owns 49 per cent of Eurotechnique, will receive payment of a symbolic FF1 for its share in the company, M Jean-Pierre Chevenement, the Research and Industry Minister, said yesterday.

The U.S. company, which formed Eurotechnique at the end of the 1970s with the now nationalised Saint Gobain of France, will, however, maintain a technological link with Eurotechnique.

Saint Gobain will transfer its 51 per cent stake to Thomson, setting the seal on the company's move out

of the electronics business, put into effect after nationalisation.

The Thomson takeover will group the French electronics components industry around two "poles" - Thomson itself and the state-controlled electronics and defence group, Matra - each with a sufficient "critical mass" to take on foreign competition.

M Chevenement announced the agreement at the first meeting yesterday of France's National Electronics Development Committee, including industrialists, scientists, trade unionists and government officials. He re-affirmed the plan to raise France's status to the third largest force in world electronics after the U.S. and Japan, by dint of a FF1 400bn (£30.46bn) five-year investment programme whose main lines were announced last summer.

As part of the programme, M Chevenement said yesterday that

government credits for the electronics sector would rise to FF8 8bn this year from FF7 8.2bn in 1982.

The research credits, principally from the Defence and Industry Ministries and the Post Office will be added to the own funds put up by companies, including foreign groups in France - plus loans from the banks and capital markets.

He also announced an eight-point development programme to boost France's electronics prowess. Projects will be set up ranging from computer-assisted manufacture of silicon chips and programming developments to the establishment of a large French scientific and industrial computer.

The re-organisation of the components sector follows months of negotiations which M Chevenement described yesterday as "difficult".

Apart from Eurotechnique, France already has two other com-

ponents manufacturers set up in collaboration with U.S. companies - Thomson with Motorola and Matra with Harris. Last autumn, the Government decided to reduce the number to two - setting off the negotiations to absorb Eurotechnique into the Thomson group.

Eurotechnique employs about 480 people in a factory at Roussier, near Aix-en-Provence. No turnover figures are published and it is known to have been operating at a loss.

American officials in Paris have voiced concern about the lack of compensation for the National Semiconductor stake. The Thomson takeover follows the rancorous negotiations last year over nationalisation of the former French ITI telephone subsidiary, CGCI, which established months of sagging over the compensation price paid by France.

## Japanese consider plants in Britain

By Charles Smith in Tokyo

THE WAVE of Japanese interest in investment projects in the UK that has accompanied the visit of Mr Patrick Jenkin, the British Industry Minister, continued yesterday.

Honda, the car manufacturer, said it was "ready" to start a feasibility study on establishment of a motor cycle plant in the UK. Mitsubishi Electric revealed it was "positively studying" a plan for UK manufacture of video tape recorders. Fujitsu, which manufactures lifts, said it was considering building a plant in Britain.

The official British response was cautious. Mr Jenkin said yesterday that the investment projects were a move in the right direction but that much more would be needed to put economic relations with Japan on an even keel. Japan ran a £2bn (£3.14bn) trade surplus with Britain last year, he noted, and this might widen further this year.

The signal from Mitsubishi followed announcements earlier in the week of Sanyo Electric's plan to assemble VCRs at Lowestoft in Norfolk and of Hitachi-Maxell's decision to set up a video cassette production plant in Sharnbrook.

This seemed to indicate Japan's intention to help offset its trade surplus with an investment drive.

There is strong pressure for the Japanese to produce video products in the UK. Britain is the world's largest market for video recorders and imported 2.4m units in 1982 with a landed value of about £480m.

The only video recorders made in Britain are assembled by Thorn EMI in Newhaven from kits imported from JVC of Japan. It hopes to increase annual production to 240,000 by the summer, 10 per cent of last year's imports. Sanyo has announced it will assemble 5,000 a month (2.5 per cent of imports), at its factory.

The announcement from Honda came directly from Mr Kiyoshi Kawajima, the company's president, who was readily granted approval by the Industry Minister to undertake the feasibility study.

Mr Jenkin's visit continues today and he is due to meet top executives of Nissan Motors for discussions on the long-stalled Nissan proposal to build cars in the UK.

John Griffiths writes: Unlike Nissan's plan to start UK car production, a British Honda motor cycle plant would be unlikely to meet any opposition in the UK because no significant indigenous manufacture survives. Only a handful of makers, most significant among them the Meriden co-operative remain and their combined output is little more than 100 a week. The Japanese manufacturers dominate the UK powered two-wheeler market, with about 90 per cent of all sales. Honda is the clear market leader, with a share of about 45 per cent.

Tokyo trade surpluses, Page 6

## THE LEX COLUMN

### Nothing new in Davy's locker

The UK Chancellor's dark warning that speculators against sterling might live to regret their actions fell on deaf ears yesterday, as the pound travelled on downwards against the dollar in London. At its fortnightly meeting, the Bundesbank tried a more subtle ruse. Its key interest rates were left unchanged, to prop up the D-Mark, while DM 4bn of extra liquidity was injected through an extension of discount facilities to please the domestic markets.

Davy

This has not been a distinguished week for City analysts. Caught flat-footed on Wednesday by both Racial and Tate & Lyle, they were simply dumbfounded by yesterday's interim figures from Davy. Profits for the six months to September had been expected to total around £45m pre-tax. As it turned out, they dropped 33 per cent to £31m. The dividend prop was swept away by a halved payment and, worst of all, hopes of full-year profits in the area of £16m were dashed by the company's own forecast that the second half would look similar to the first.

Net assets of around 88p per share proved wholly inadequate support for the share price, confronted with this barrage of bad news. After halving last year, it dropped 21p yesterday to 59p at which level the market capitalisation of £55.7m is not much above the net cash position in Davy's balance sheet.

That cash, however, is being whittled away by the absence of new orders - and prepayments - to fund an overhead structure costing about £200m per annum. This figure should fall by around 10 per cent in the current year but the group's engineering capacity, in particular, will remain seriously under-utilised.

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Tokyo trade surpluses, Page 6

## New cash dispenser makes money talk

By Alan Cane in London

NCR, the U.S. computer company and leading banking hardware supplier, will next month launch an advanced cash dispenser with a voice of its own.

Britain's National Westminster Bank is expected to be one of the first test sites for the new machine which will be able to speak in a variety of languages and regional accents.

Leading banks see the voice as a novelty. They are more impressed by the increased reliability that the new machine offers through the use of advanced technology.

The machine, the NCR 5080, was developed and will be manufactured at NCR's Gourie plant in Dundee, Scotland, where it was known in the banking world by the code-name "Glen Clover."

Among its features are a system for locking off parts of the machine so that only bank staff can have access while opening the principal mechanism to third party maintenance.

With banks placing increasing emphasis on automated tellers (ATMs) or cash dispensers to take the load off counter staff, reliability has become a priority. The new machine could be maintained and replenished at weekends by non-banking staff.

The new machine will also have a video display screen on which it will be possible to draw diagrams as well as print messages.

NCR is already a world leader in the development and supply of ATMs. Its 1780 model has the facility to talk directly to a bank's computer when the bank and its computers are open but to work independently when they are not.

## UK fears Brussels no longer supports special budget rebates

BY JOHN WYLES IN BRUSSELS

BRITISH OFFICIALS yesterday expressed alarm over a tactical move which appears to withdraw the European Commission's support for special arrangements to reduce the UK's payments to the EEC budget this year and next.

After studying the declaration submitted by the Commission to the European Parliament's budget committee on Wednesday, the officials were last night urgently seeking clarification of words which seem to rule out further special short-term deals of the kind which have substantially cut back Britain's payments to Brussels since 1980.

The Commission intended the declaration to show firm support for the Parliament's view that the British budget problem should be dealt with by an increase in the Community's budget revenues and

the development of new spending policies of benefit to the UK.

Its aim was to secure the Parliament's backing for a supplementary budget designed to refund £480m (£780m) of Britain's payments to Brussels last year. Anxious to be seen as forcing member governments into a faster development of the Community, the Parliament has demanded an assurance of no more special deals for the UK as its price for adopting the supplementary budget.

The Commission's move risks facing the UK with a budget bill this year of £1bn or more.

This is because it attaches a higher priority to settling the fundamental issues of whether and how to enlarge the EEC budget and to what new policies should be developed. The Commission's declaration asserted that "these decisions will

have to be applied in such a way that no transitional measures will need to be taken." Transitional measures means no further special budget rebates for the UK.

Until now, the British believed that the Commission intended to push for an agreement on its proposals for another short-term deal once the supplementary budget was out of the way. Instead, the Commission has opened the way for a protracted negotiation on much more difficult issues.

The British fear that France and other EEC countries will exploit the situation to try to secure UK agreement for the removal of present limits on the size of the EEC budget.

Brussels sees Paris over farm decision, Page 3

## Bethlehem Steel cuts salaries

BY PAUL TAYLOR IN NEW YORK

BETHLEHEM Steel, the second largest U.S. steelmaker, yesterday became the second leading U.S. company in less than a week to announce salary cuts for its non-union employees.

The company is to cut the salaries of more than 14,000 non-union employees in its steel group and general offices by between 8 per cent and 10.5 per cent.

Last July, Bethlehem cut the salaries of the same workers by 5 per cent and those of its corporate officers by 10 per cent.

Earlier this week, U.S. Steel, the largest U.S. steelmaker, announced plans to cut salaries and wages of 28,000 non-union staff by 5 per cent from February 1.

Bethlehem's move, the latest step by the big U.S. steelmakers to cut costs in the face of mounting losses,

will affect about 6,000 secretarial, clerical and technical workers and 8,000 supervisory employees.

The company, which in the first nine months of last year reported a \$322.1m pre-tax loss and which has recently announced the closure of its Lackawanna, New York, steel plant with the loss of 10,000 jobs, said the pay cuts would save the company about \$20m a year.

Mr Donald Trautwein, chairman, said the cuts were "absolutely essential for the long-term future of the company."

On Wednesday, Bethlehem Steel led a move by five main U.S. steel manufacturers to increase list prices for carbon and alloy steel strip and plate products by an average of 6 per cent.

The price increase, if it sticks,

will be the first since mid-1981 and is seen as an attempt by the leading steelmakers to position themselves for an expected increase in demand for exports near depression levels. Republic Steel this week announced a \$239.2m full-year loss and other steel manufacturers are expected to announce similarly poor figures.

Jones and Laughlin Steel, a subsidiary of LTV, National Steel Republic Steel and Wheeling-Pittsburgh Steel joined the Bethlehem initiative. However, U.S. Steel, said yesterday that it had not increased its prices.

The U.S. steel companies had a disastrous year in 1982 with production and shipments near depression levels. Republic Steel this week announced a \$239.2m full-year loss and other steel manufacturers are expected to announce similarly poor figures.

## Further steps in Korf group dismantling

BY JAMES BUCHAN IN BONN

THE DISMANTLING of Herr Willy Korf's steel and engineering group is expected to continue with the announcement by Herr Gerhard Fuchs, joint owner of Korf and Fuchs System Technik, that he will buy out the 50 per cent Korf stake in the concern.

Korf and Fuchs, which makes equipment for electric-arc furnaces and had sales of DM 21m (£8.7m) last year, is 50 per cent owned by Korf Stahl, Herr Korf's European holding company which last Friday announced composition proceedings for protection against its creditors. Herr Fuchs said the deal would go through in the next few days and the concern had no problems with liquidity or earnings.

Korf Stahl announced composition proceedings after Herr Korf's master company, Korf Industrie

und Handel, and his chief domestic steel producer, Badische Stahlwerke, sought court protection. Since then, Mohr and Federhaff, the core of the group's mechanical engineering activities in West Germany, and two subsidiaries have petitioned for composition proceedings.

A question mark will stand by Korf Industrie Inc., the holding company for the group's North American interests, which announced talks with 18 creditors at the beginning of the week for the restructuring of its loans.

It is believed these amount to \$107m, but Mr Roger R. Regalbrugge, the concern's president, and Herr Korf have said that the difficulties in Germany and in the U.S. are quite unrelated.

## Zero option campaign

Continued from Page 1

lines with the Soviet negotiators, has been publicly told not to do so again. There is little doubt among arms control experts in Washington, however, that Mr Nitzze will continue privately to probe the Soviet negotiating position in the search for possible alternative routes to an agreement.

Anthony Robinson adds from Moscow: The Soviet Union has dismissed suggestions that it might be prepared to consider a compromise solution at the INF talks in Geneva which would reduce the number of U.S. Pershing and cruise missiles to be deployed in Western Europe in return for a reduction in Soviet SS-20 missiles aimed at West European targets.

An article in the weekly Moscow News carried by Tass said that any such compromise agreement was absolutely unacceptable and added that Western calculations that the Russians would make concessions

at the last minute were illusory.

The possibility of such a compromise to replace the current "zero option" position is reported to have been informally discussed by U.S. and Soviet negotiators in Geneva during the summer and explored again during recent Soviet-West German talks in Moscow and Bonn.

Mr Andrei Gromyko, the Soviet Foreign Minister, formally rejected the zero option during his just-completed visit to Bonn, and now the Soviet propaganda machine appears to be seeking to dispel any hopes that the Soviet Union would be satisfied with any compromise which allowed the deployment of any of the new U.S. missiles.

Western diplomats believe that the uncompromising line is primarily intended to maintain pressure on Western governments so as to make the minimum possible concessions as the deployment deadline approaches.

## MBB chief steps down

Continued from Page 1

primarily from MBB's public shareholders, who include the states of Hamburg, Bremen and Bavaria and who control just over 50 per cent of the equity.

It is suggested that some public shareholders are dissatisfied with the cautious Prof Madelung's business policy.

They have argued that Dr Vogel, a man with a reputation for having good contacts at Government level, would be a more effective advocate for MBB in Bonn in securing Government support for aerospace programmes.

The company offered no explanation for the management change. It merely announced Dr Vogel's appointment and added that Professor Madelung will become deputy chief executive and will be the board member responsible for military aircraft.

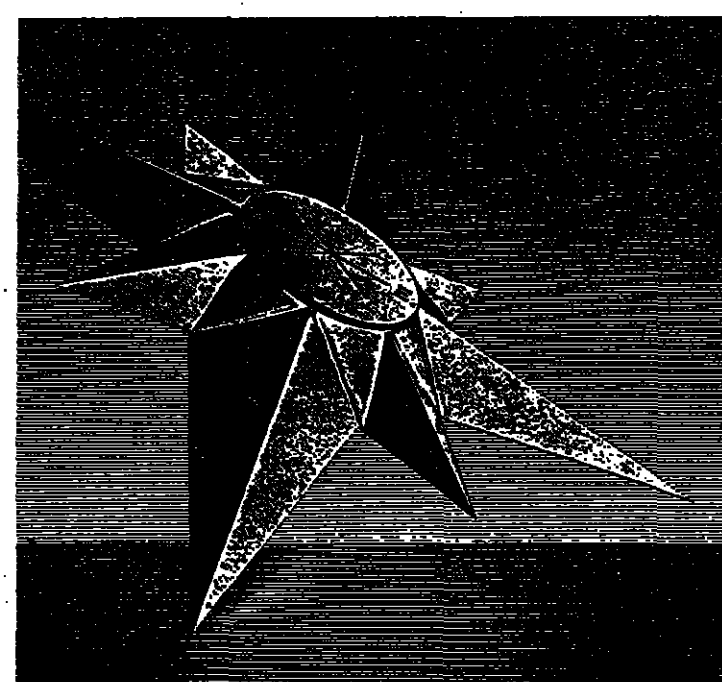
It added that the division was of special significance to MBB because of the possible development of a new European fighter plane.

The meeting of the company's supervisory board confirmed that MBB would have to make cuts in its workforce and in its investment in the commercial aircraft division which is involved in building the European Airbus.

But it appears that the supervisory board has not accepted management's proposals to reduce the group's workforce from 38,000 to 34,500 with 2,400 redundancies. The board has called on management to put forward new proposals for cuts and to seek ways of easing the burden of redundancy.

In its 1981 financial year, MBB reported a rise in net profits from DM 51.1m to DM 58.5m. Sales revenues rose by 18.8 per cent to DM 4.85bn.

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SECTION II - INTERNATIONAL COMPANIES

FINANCIAL TIMES

Friday January 21 1983

**LONGINES**  
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AIRLINE LOOKS FOR EXTRA STATE AID

**Air France loses \$120m**

BY DAVID WHITE IN PARIS

AIR FRANCE is counting on a tripling of Government support this year to FF 500m (\$74m), according to M Henri Sauvan, the airline's managing director.

The aid, coming in the form of advances from the state as shareholder, follows sharply higher losses for 1982. These, confirmed by M Pierre Giraudet, the chairman, yesterday, amounted to FF 820m (\$120m) more than twice as high as the previous year's deficit of FF 380m.

However, while announcing a "prudent" policy for the current year, the airline's management has made clear that no drastic cutbacks are envisaged and that the fleet, currently being reinforced with the first deliveries of Boeing 737s, is to remain intact.

M Sauvan's predecessor in the number two job, M Gilbert Perol, resigned in the summer after Government pressure against staff cuts at the airline.

M Giraudet said Air France remained "in the ranks of the least sick" among the world's air companies.

**EUROBONDS**

The International Capital Markets report said the FT International Bond Service appear on the back page of this section, Page 24

A "considerable reduction" in the deficit is hoped for this year in preparation for a recovery in 1984, M Giraudet said.

Among the factors affecting profits last year were political events in the Middle East - including the fighting in Lebanon - and in Argentina, where services were stopped during the Falklands conflict.

The company also lost from the high value of the dollar during the year and suffered from the rise in

the cost of servicing a growing debt. The ratio of debt to capital is reckoned to have risen in two years from 2.9 to 5.4.

Cash flow remained positive last year but was trimmed by some 80 per cent to FF 135m. This compares with a peak of FF 1.2bn in 1979.

Growth in passenger traffic on subsonic routes was 1.9 per cent, while the number of seats on offer was increased by 2.3 per cent. The average occupancy rate dropped slightly from the previous year's level of 84.5 per cent.

Freight traffic meanwhile increased by 2.8 per cent.

Concorde flights were described as being not far from break even, after dropping services to South America. The company said it had still to decide what to do with the three Concorde - out of the seven it has - which are currently grounded.

The airline's subsidiaries in the charter, travel and hotel businesses meanwhile all showed profits for last year.

**Three aluminium groups in red**

BY OUR NEW YORK AND MONTREAL STAFF

North American aluminium companies have announced fourth quarter losses because of the depressed state of world markets.

Aluminum Company of America (ALCOA) reported a net loss of \$33.86m, or 45 cents a share, for the 1982 fourth quarter, against a net profit of \$32.3m, or 42 cents a share, a year earlier.

Canadian-based Alcan Aluminium had a quarterly net loss of US\$50m, or 71 cents, compared with a net profit of \$28m, or 32 cents, a year earlier.

Alcoa's revenues in the fourth quarter were \$1.06bn compared with \$1.1bn a year earlier, which made full year revenues \$4.67bn compared with \$5.05bn.

Alcoa, the largest U.S. aluminium company, is looking for a slow but

modest recovery in 1983 after suffering heavy losses in the closing months of 1982. Net profits for the year as a whole slumped from \$296.2m to \$10.8m or just 11 cents a share.

The group explained that, as in the third quarter, its performance had suffered as the result of a less profitable products mix, higher input and scrap sales and lower mill product shipments. But it added that the price of primary aluminium appeared to be firming, and that a slight increase in order rates was apparent.

Alcan Aluminium shipped more ingots and semi-fabricated products in 1982 but because of low metal prices the company showed a loss for the year of US\$58m against earnings of \$24m or \$3.24 a share a year earlier. It was the first yearly loss for Alcan since 1932.

Sales and operating revenues were \$4.9bn against \$4.9bn. The losses occurred during the second half of 1982 cancelling out profits earned in the first half. The impact of the recession on aluminium markets was most serious in the second half especially in North America, Europe and Australia.

**Italtel reduces losses to \$86m**

By James Buxton in Rome

ITALTEL, the state-owned company, Italy's major supplier of telecommunications equipment, lost about L120bn (\$86.5m) last year. But the loss was mainly the result of very high financial charges and was less than half that for 1981, when the company suffered a record L280bn deficit.

The company's sales rose from L103bn in 1981 to L130bn last year, according to the preliminary results. This is an increase of 32 per cent, about double the Italian inflation rate.

The gross operating margin for 1982 was L135bn, against only L24bn in 1981. But this was more than offset by net financial charges which amounted to L118bn, against L143.4bn last year.

The company is going through a major reorganisation programme directed by M. Maria Bellisario, the managing director. It had incurred heavy losses as a result of a badly planned expansion programme in the 1970s and the failure of SIP, the Italian telephone utility, to maintain its ordering programme because of its own financial difficulties.

Both companies are controlled by STET, the telecommunications state holding company.

Italtel's recovery programme includes staff reductions. The labour force was down to 22,700 at the end of last year, against nearly 29,000 at the end of 1981. A further 3,000 workers are to go in the next three years. The staff reduction and increases in productivity lifted sales per head by nearly 30 per cent last year.

The company says its recovery plan is on target and that it will break even in 1984. For this year a loss of L40bn on sales of L1,150bn is forecast.

**BankAmerica profit for year falls 5.8%**

BY PAUL TAYLOR IN NEW YORK

BANKAMERICA Corp the parent company of the largest bank in the U.S., reported a drop in operating earnings for the final quarter and the year.

The company suffered a 13.3 per cent decline in fourth quarter earnings before securities transactions to \$73.4m or 46 cents a share, against \$84.6m or 57 cents a share in the 1981 quarter.

Securities transactions raised net income for the latest quarter by a marginal \$800,000.

But the full year operating earnings fell by 5.8 per cent to \$419.8m or \$2.81 a share, including the cumulative effect of an accounting change. In 1981 earnings stood at \$445.4m or \$3.02 a share.

The accounting change reduced operating income in the latest year by \$900,000.

Net income for the year, however, increased by 1.4 per cent to \$451.5m, or \$3.08 a share, against \$445.4m or \$3.02 a share.

The bank said the difference between operating income and net income largely reflected the cumulative effects of a change in accounting for investment tax credits. This had the effect of increasing income before securities transactions by \$8.3m for the year and \$2m for the quarter.

Mr Samuel Armacost, president, said net income was reduced by increased net loan charge-offs, non-performing loans and additions to loan-loss reserves which stood at 0.9 per cent of outstanding loans at the end of the year.

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**Westinghouse profits slip back in quarter**

BY OUR FINANCIAL STAFF

WESTINGHOUSE Electric, the second largest U.S. maker of electrical equipment after General Electric, reported a dip in net profits for the fourth quarter to \$100.8m, or \$1.13 a share, from \$103.1m, or \$1.20, a year earlier.

This was in sharp contrast to GE, which earlier this week announced a 18 per cent increase in net profits for the final period to \$542m.

Westinghouse's revenues for the three months were \$2.61bn, compared with \$2.53bn a year earlier, making \$9.75bn for the year, against \$9.38bn. Full-year net profits were ahead slightly at \$449.3m, or \$5.16 a share, from \$438m, or \$5.10.

Sperry, the computer and industrial products group, is expecting a recovery in earnings after a steep decline in the nine months to December.

Net income in the third quarter fell by 22 per cent from \$51.2m, or \$1.20 a share, to \$40m, or 90 cents.

Revenues fell from \$1.39bn to \$1.27bn.

This took nine-month earnings down by 53 per cent from \$140m or \$3.33 a share to \$85.2m or \$1.47. Revenues fell from \$4bn to \$3.67bn.

Mr Gerald Probst, chairman and chief executive, said yesterday that an improvement was expected in some areas, particularly information processing. The outlook for its defence business was strong.

Revenues from computer systems rose slightly in the third quarter. But on the machinery products side, sales of Sperry New Holland farm equipment fell by 31 per cent, and there was a 24 per cent decline in Sperry Vickers fluid power products.

Rockwell International, the military electronics, space systems and automotive parts manufacturer, yesterday reported higher profits in the first quarter to December 31 bolstered by government defence contracts.

**Increased loan provisions hit net profits at Banque Worms**

BY DAVID MARSH IN PARIS

BANQUE WORMS, the fourth largest French investment bank, has reported a sharp fall in net profits for last year, above all because of an increase in provisions on doubtful loans.

The bank, taken over by the state in last year's nationalisations, is studying collaboration with two other nationalised banks - Banque Paribas and Banque Paribas de Crédit - according to M Georges Vianes, its new chairman. But these links are not expected to go as far as a complete merger of the three institutions.

Profits after tax, depreciation and provisions fell to FF 18m (\$2.3m) in 1982 from FF 42m in 1981. Before these items, profits were substantially higher at FF 161m compared with FF 106m in 1981.

The bank's balance sheet progressed to FF 34bn last year from FF 28bn in 1981 and FF 24bn in 1980.

The set of results is the first to be announced by a nationalised bank. One of the reasons for the early release seems to have been to scotch rumours circulating recently in Paris that the bank had actually made a loss last year.

M Vianes, underlining that the bank would continue to make profits in the post-nationalisation era, said it would keep its identity and expected to maintain expansion abroad. This year Worms plans to open an agency in Singapore.

Worms is ranked as the 18th largest French bank. It is one of the three smaller institutions nationalised last year for which the Finance Ministry is believed to be working out a restructuring plan, along with other state-owned institutions.

**U.S. drugs companies report higher income**

BY RICHARD LAMBERT IN NEW YORK

AMERICAN HOME Products, the food and drug company with major interests in prescription drugs and packaged medicines, has reported its 31st consecutive year of increased earnings.

Net income rose by 13 per cent in the fourth quarter from \$127.9m, or 82 cents a share, to \$144.2m, or 92 cents a share. For the year as a whole, earnings rose from \$497.3m or \$3.18 a share to \$560.1m, or \$3.59 a share.

Revenues for the quarter rose from \$1.04bn to \$1.17m, and for the year from \$4.13bn, to \$4.58bn.

Sales of the prescription drug and medical supplies segment, which included the Sherwood Medical acquisition as from March, rose by 24 per cent for the year. Overall sales in the U.S. rose by 16 per cent for the year and 19 per cent in the final quarter, but the strength of the dollar meant that foreign sales were little changed over the period.

PFIZER, another major drug company, said that net income in the final quarter had jumped from \$75.9m to \$92.5m even though currency fluctuations had hit the latest period to the time of \$20m.

**Union support for Hoogovens jobs project**

By Walter Ellis in Amsterdam

TRADE UNION leaders representing the 18,200-strong workforce at Hoogovens, the leading Dutch steelmaker, have endorsed a company plan for the creation of up to 490 jobs for young people.

Under the plan, individual workers could volunteer either to work a reduced number of hours or, in the case of those aged 57 or over, to accept early retirement. An agreed 2.06 per cent reduction in the indexed wage increase due this month would pay for the scheme.

Hoogovens has been under considerable financial pressure in recent years and last September was granted F1 1bn (\$384m) in Government aid to help fund a three-year restructuring programme costed at F1 3.2bn.

The company is still in dispute with Hoersch of West Germany over EEC quota rights to the production of some 400,000 tonnes of steel annually. Hoersch and Hoogovens merged last year when the Dutch concern felt it could no longer sustain losses incurred in West Germany.

**Santa Fe earnings are halved**

By Paul Taylor in New York

SANTA FE Industries, the rail and energy company, yesterday reported a dramatic halving in its fourth quarter earnings. It blamed particularly difficult conditions in the railway business.

Fourth quarter earnings dropped to \$26.2m, or 32 cents a share, from \$55.2m, or 63 cents a share, on revenues which fell from \$811.5m to \$785.8m.

For the year, net earnings fell to \$180.2m, or \$2.06 a share, from \$242.2m, or \$2.73 a share, on revenues of \$3.18bn, against \$3.37bn a year earlier.

Mr John Reed, the chairman, said: "Railway operations felt the severe impact of reduced loadings, which were down 17 per cent for the year and the quarter. In addition, expanded railway maintenance programmes, carried out during the fourth quarter, had an adverse impact."

Mr Reed added that these factors more than offset the effects of a cost reduction programme, including a 13 per cent cut in staffing levels.

While there had been no improvement in rail freight traffic, Mr Reed said the cost reductions should help the company to take advantage of any economic upturn.

**Peugeot launches model to win back market**

BY KENNETH GOODING IN LONDON

PEUGEOT today unveils its new "supermini" car, the 205, in which it has invested FF 1.2bn (\$180m) for new production equipment alone.

The 205 slots between Peugeot's 104 and its best-selling 305 models and is a vital element in the company's attempt to claw back lost market share in Europe.

It will meet intense competition from, among others, the Fiat Uno, announced only yesterday, the General Motors "S" car (known as the Opel Corsa on the Continent and the Vauxhall Nova in Britain), the Renault R5 and Ford Fiesta, as well as BL's Metro.

The 205 will be assembled at Mulhouse, Alsace, and later this year, at Villaverde in Spain. Eventually there will also be assembly in Africa.

Peugeot hopes to produce about 250,000 of the 205 annually. Output of the 10-year-old 104 has been about 150,000 a year and that of the 305, around 200,000 a year. Total European sales of "superminis" are about 2.45m while output of Peugeot-badged cars in 1981 was around 678,000.

The newcomer will be launched first in France next month and then progressively introduced to other major European markets.

The UK subsidiary predicts that

the 205 will become the best-selling Peugeot in Britain with a 2 per cent market share, suggesting sales of around 30,000 to 35,000 a year.

One of the engines to be used by the 205 is also new and was developed from the power unit used in the VERA research model, produced with French Government financial support to find ways of increasing fuel economy without sacrificing performance.

To keep costs down, the engine, which is being made at Douvains, uses some parts from Peugeot's existing units. Called the XY 7, it is a 1300 cc unit which develops 59 brake horsepower. The engine will be used for other models in the Peugeot-Citroën-Talbot ranges.

The rest of the 205 owes a great deal to the VERA project and Peugeot claims that, through a combination of weight reduction and innovative aerodynamics, it gives up to 65 miles per gallon.

The 205 is a five-door hatchback. Initially, five versions will be offered with a choice of four engines and four or five-speed gearboxes. Later a diesel engine version will be available.

There are also plans for a three-door derivative, but this might be sold as a 105 replacement.

**Product recall worries U.S. insurers**

BY OUR NEW YORK CORRESPONDENT

U.S. INSURERS were sent into a flutter last week by news of a lawsuit which could have important implications for their product liability business. McNeilab, a subsidiary of Johnson and Johnson, has sued a group of insurance companies for about \$117m to cover the cost of the company's recall of its Tylenol products.

In a three-day period last autumn, seven people died in the Chicago area after allegedly taking Tylenol pain relieving capsules which had been laced with cyanide.

The tragedy attracted nationwide attention. It soon became clear that the products had not been tampered with before they left the company, but it was decided to stop producing the capsules and to recall and destroy all those on the market. The company has put the cost of this at about \$100m.

In the papers filed in connection with the lawsuit, the company says that once it had become aware of the poisonings, any failure to recall the products could have been claimed as negligent omission, constituting a proximate cause of any further poisoning. Thus it was "obligated by reason of such potential liability to effect a prompt withdrawal of said Tylenol capsules."

In essence, Johnson and Johnson is saying that if it had done nothing, the company - and its insurers - could have been hit for millions of dollars in potential bodily injury lawsuits. It is asking its insurers to share the burden of its action.

Although its property and liability policies do not include specific coverage for product recall, the company says its policies do not bar it from making such claims.

Product recall is apparently excluded from its liability policies, but Johnson and Johnson claims that this exclusion is not applicable since it is based on the idea that the product concerned is faulty. That, it says, was not the case with the Tylenol capsules which left its doors.

There are two parts to the lawsuit. In the first, the company is seeking to recover about \$67m of its costs under a number of excess and product liability policies. If it is successful, insurers say, the scope of product liability insurance will have been significantly widened.

Things, provides cover against business interruption losses and extra expenses connected with such interruptions.

The court papers make clear that the claim is not just an attempt to cover the loss of business caused by the halt in Tylenol production. It includes "withdrawal expenses incurred under the first claim for relief in the event that such withdrawal expenses are adjudicated not to be recovered from the product liability insurers."

The company notified its insurers in November of its intended claims, and has not yet had any response from them. Hence the publication last week of the details of its suit. A lot of fine print is certain to be examined before this one is over.

A guide to the funding issues related to the asbestos crisis has been published in New York by the National Council on Compensation Insurance. It warns that the liabilities arising from asbestos-associated disease are threatening the basis of the workers' compensation system as well as the U.S. tort system.

The asbestos problem will have to be resolved in a way which differs from its current handling, and it will have to be resolved in relatively short order," the report concludes.

Meanwhile, Lloyd's of London has joined 11 major asbestos insurers - including Royal and the Commercial Union - to set up the Asbestos Claims Council. The objective is to co-ordinate the growing number of asbestos-related claims and speed their disposition.

Mr John McGillicuddy, chairman of Manufacturers Hanover Corporation, had some mildly comforting thoughts last week for those who fear that deregulation in the U.S. financial services industry will hurt the established insurance industry.

He told the annual conference of the Insurance Information Institute and the Insurance Services Office that his bank would like to have the opportunity to underwrite property and casualty insurance. But, he said: "That is quite different from saying that I would hang out our shingle (nameplate) tomorrow and the same would apply to insurance brokerage."

"I guess what I'm saying is that much of the current talk about the potential of financial supermarkets may be greatly exaggerated."

This announcement appears as a matter of record only. December 1982

**sdr**

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Short Term 'A' Units  
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Long Term Units — All Holders

Midland Bank Trust Company (Channel Islands) Limited as Trustee of the above mentioned Fund has declared the following dividends per Unit for the financial period ended 31st December, 1982, payable on the 31st January, 1983, in respect of Units in issue on 31st December, 1982:—

Short Term 'A' Units — Distribution Units  
US\$0.0637 per Unit — payable against Coupon No. 3.  
Short Term 'B' Units — Distribution Units  
US\$0.0462 per Unit — payable against Coupon No. 3.  
Long Term Units  
US\$2.00 per Unit — payable against Coupon No. 22.

Unit holders should send their Coupons to either the Trustee at 28/34 Hill Street, St. Helier, Jersey, Channel Islands or to one of the following Paying Agents:—

Bankers Trust Company, One Bankers Trust Plaza, New York, N.Y. 10005, and  
Dashwood House, 69 Old Broad Street, London EC2P 2EE.  
Banque Générale du Luxembourg S.A., 14 Rue Aldringen, Luxembourg.

Arrangements have been made whereby holders of all Long Term Units in issue at 31st January, 1983 may reinvest the dividend paid at that date in additional Units at a purchase price equal to the Net Asset Value per Unit at 30th January, 1983 (as an indication, the Net Asset Value per Unit was US\$23.14 on 16th January, 1983). This right will be terminated at the close of business on 28th February, 1983. Long Term Unit holders who desire to reinvest their dividend should advise the Trustee or Paying Agent accordingly when presenting their coupons for payment.

Midland Bank Trust Company  
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### Floating/Fixed Rate Bonds Due 1991

In accordance with the provisions of the Bonds, notice is hereby given that for the three months interest period from 21st January, 1983 to 21st April, 1983 the Bonds will carry an Interest Rate of 9 1/4% per annum. The relevant Interest Payment Date will be 21st April, 1983. The Coupon amount per U.S. \$5,000 will be U.S. \$114.06.  
On 17th January, 1983 the Ten Year Weekly Treasury Rate was 10.32 per cent. per annum.

Morgan Guaranty Trust Company of New York  
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Companies and Markets

## INTERNATIONAL COMPANIES and FINANCE

David Lennon looks at a market described as the 'Las Vegas' of Israel

### Plans to reform the Tel Aviv stock exchange

THE search for a hedge against triple digit inflation rates has turned the Tel Aviv stock exchange into the Las Vegas of Israel. For most of the punters the gamble has paid off, as share prices have rocketed upwards in spite of the odd bout of nerve shattering profit-taking by the big boys.

Over one third of the country's households invest some or all of their savings on the market and its movements are watched as closely as those of any of the players from Tel Aviv's Maccabi team in a European-cup basketball match.

Turnover on the Tel Aviv stock exchange is close to \$50m a day. The value of the stocks is some \$18bn. Last year there were 77 first-time issues which raised a total of \$259m.

Given all this, it was therefore hardly surprising that the resignation of the chairman of the stock exchange, Dr Meir Heth, a couple of weeks ago, amidst a flurry of charges of stock manipulation, aroused nationwide interest.

Until his resignation few people had heard of Dr Heth or seen his photograph. Today this is a household name, and his face is as familiar as that of most cabinet ministers. Newspapers carry daily reports of his every utterance, and television and radio have given him saturation coverage.

An austere looking man with a reputation as a bright, responsible and cautious economist, Dr Heth served as chairman for the past five years. Previously he had served in various official posts including controller of banks at the Central Bank.

With such a background

therefore, it was all the more surprising when Dr Heth called a press conference and announced that in his opinion, the stock market was heading for a major fall unless serious reforms were undertaken. "Ultimately," he said, "there has to be a relationship between the market and the economy. Stocks cannot keep

going up forever when their real value is far out of proportion to the real value of the companies."

His call for a series of reforms designed to curb the excesses of an exchange whose stock index rose by almost 30 per cent last year was flatly rejected by the directors of the exchange.

Within a week of resigning Dr Heth was back in his post, after the major participants in the stock market realised that it would be better to consider his reforms than have to face possibly more severe and restrictive changes imposed by the Knesset (parliament).

Dr Heth has proposed three basic reforms. Firstly, he wants stricter criteria for new companies wishing to launch issues. Secondly, trading should be continuous, he says, rather than the current one-

day auction system, and thirdly, he wants efficient controls placed on mutual funds and portfolio managers. Dr Heth has become increasingly worried about the dangers facing the small investors who do not understand, in his words, the need for some relationship between the market price of a stock and its

exchange.

Under the auction system the brokers, with the commercial banks being the biggest of these, suspended if the 5 per cent limit is reached.

The rules were originally designed to allow time for second thoughts but the stock exchange chairman feels that it has now been subjected to frequent, if undetected, abuse.

In order to diminish such abuses, he wants continuous trading introduced. It will not end all manipulation, such as "wash sales," but it will make life more difficult for the manipulators.

The absence of controls on portfolio managers also worries Dr Heth. "Today any person who wants to, can open a shop and become an investment counsellor."

Regarding this as an "intolerable" situation, he wants the laws, designed for a much smaller market in the 1960s, amended to establish suitable criteria for the licensing of portfolio managers and their behaviour in the market.

The interesting aspect of the massive uproar over Dr Heth's actions is that, like the investors he is trying to protect, the stock exchange chairman has gambled. By going public about his worries he hopes to force the directors of the exchange to take his proposals seriously. Like most of those who play the Israeli market he appears to have won handsomely.

The exchange's directors have agreed to set up sub-committees to study the proposed reforms. Only time will tell whether Dr Heth's gains were real, inflationary, or liable to be lost on the roulette table known to one and all in Israel as the "bourse."

Day after day crowds gather outside television shop windows in towns and cities throughout Israel. They are not, as might be expected in other countries, watching some sports match but are instead looking with nail-biting anxiety at the results of the day's trading on the Tel Aviv stock exchange

true value as gauged by any real economic criteria. Only the concern is well founded. At local bank branches blue overalls factory workers jostle with elegantly clad matrons in front of the investment desks as the harried advisers try to keep up with the flurry of buy-sell orders. Investing in the stock market is an egalitarian sport in Israel.

The attraction of the market is that there is no capital gains tax and by investing in equities the average Israeli can keep his money liquid rather than tying it up in inflation-proofed, long-term savings programmes.

There has for long been concern that the same people—the banks and the large institutions—serve as issuers of their own shares, as the major brokers and also sit as members of the board of directors of the

first match buy and sell orders within their own network. The residue of unsatisfied purchase or sale orders are brought to the exchange, where in a single session starting at 1.30 pm prices are negotiated between buyers and sellers.

If a share price rises or falls by more than 5 per cent the share is suspended. The following day it starts at the 5 per cent up or down level and if it is still not cleared, then the automatic 5 per cent adjustment applies again.

Only on the third day are controls removed and the share sold freely.

Dr Heth explains that by offering more shares for sale than can be marketed, or bidding for more shares than can be supplied, brokers are able to change the price by 5 per cent, and yet not have to buy or sell a single share since all deals are

FOREIGN BANKS operating in Abu Dhabi will be faced with a new form of taxation if a directive issued recently by Sheikh Zaid Bin Sultan Al-Nahayan, the Emir, comes into effect.

The directive instructs banks that they should make an annual payment to the government of 20 per cent on profits, and that this payment is to be retroactive. This news has surprised some banks, particularly those who came to Abu Dhabi after 1973, the date the United Arab Emirates Currency Board was set up.

The main foreign banks that could be affected are Chartered, Citibank, and Barclays from the UK, Citibank, Bank of America and Chase Manhattan from the U.S., the Algemene Bank of Netherlands, plus a number of other banks from Europe, Iran and the Indian sub-continent.

Prior to that, banks had been paying a form of sponsorship payment to the government equal to around 20 per cent of profits. The then Currency Board, now replaced by the

Central Bank, introduced a licensing system, which entailed payment of an annual licence fee of roughly \$10,000 (\$15,000) and collection of the sponsorship fee lapsed.

Although some banks have in fact continued to make the payment, banks established in the Emirate after that date received no specific instructions that such a payment was required or might be introduced at a later date.

Restricted licence banks, a form of offshore banking unit, are also affected by the new directives, although representatives of foreign banks have not been approached so far.

Two aspects of the directive are causing particular concern. First is its retroactive nature. Secondly, the directive does not provide that losses in any sphere may be carried-over against obligations to pay in the following year. In addition, lack of notice and a close deadline, about two months according to one banker, could make it difficult for some of the banks to raise sufficient cash.

### Foreign banks face new form of tax in Abu Dhabi

BY OUR ABU DHABI CORRESPONDENT

### Carrian rescue package queried

BY ROBERT COTTRELL IN HONG KONG

BANKERS and analysts in Hong Kong are questioning aspects of the draft rescue packages now being proposed for Carrian Investments Limited (CIL), the liquidity-starved quoted property company, and Carrian Holdings (CHL), its unquoted parent.

CIL has a net worth of HK\$162m (U.S.\$24.8m) and debts of HK\$2.9bn, while CHL has a negative net worth of HK\$1.15bn and debts of HK\$1.4bn. Bankers are being asked to reschedule debt principal for CIL, and reschedule both principal and interest for CHL.

Some bankers want to know what constitutes the HK\$2.9bn of unspecified assets which CIL hopes to sell in 1983 and 1984 in a draft cashflow projection produced by Wardley, the merchant bank which is Carrian's financial adviser.

Analysts question whether Wardley's HK\$1bn write-down of CIL's property portfolio as of November 30, 1982 adequately reflects the extent of today's recession in Hong Kong's property market.

It is also noted that of the HK\$2.9bn which would be lent to the group by its unknown principal and interest payments on its debts.

repay loans by CIL, the quoted vehicle, to Carrian Holdings, the ultimate shareholders' own company. The balancing HK\$25m would be directly into the unquoted Carrian Holdings. Moreover, that money has not yet been transferred to Hong Kong, and Wardley says it cannot guarantee that it will come.

Bankers also note that the rescheduling proposals depend on the support of every bank owed more than HK\$1m.

Wardley says the rescue scheme should begin on April 1 this year and pending a decision, Bank is suspending all principal and interest payments on its debts.

### Nomura Securities income falls

BY OUR FINANCIAL STAFF

NOMURA SECURITIES, one of Japan's top investment houses, reports a 23.3 per cent fall in consolidated net income for the full year to September 30.

The group's net income fell to ¥39bn (\$169m) from ¥50.8bn in the previous year. Revenues were down 14.6 per cent at

¥262bn from ¥307bn of a year earlier. Earnings per share fell to ¥25.17 from ¥33.8 on a pre-tax income of ¥77.6bn compared with ¥111bn last year.

Meanwhile the Nomura Research Institute in its monthly review is forecasting only marginal growth for the

pre-tax profits of Japanese industrial companies in the second half of the current fiscal year ending March 31.

Profits will rise only 0.1 per cent the institute said. If the oil and coal industry is excluded, profits overall will show a 4.3 per cent decline.

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Heron House,  
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### INTERNATIONAL APPOINTMENTS

#### Senior posts at Marsh and McLennan

Mr James W. S. Macdonald has been elected vice-president of MARSH AND McLENNAN COMPANIES, INC., New York, from February 1. He is finance director at C. T. Bowring and Company, Marsh and McLennan's U.S. subsidiary.

Mr Macdonald's predecessor, Mr Bruce W. Schmitzer, has been named president and chief operating officer of Marsh and McLennan, Inc., the firm's worldwide insurance brokerage subsidiary.

Mr Otto Werther and Mr Bruce Salzman have been appointed directors general of the forwarding group KÜHNE & NAGEL INTERNATIONAL, Pflanz, Switzerland. Both are members of the executive committee of the Kühne & Nagel, Luxembourg. Mr Werther is responsible, worldwide, for the forwarding activities of the international transport organisation of Kühne & Nagel. Mr Bruno Salzman is responsible for finance/accounting and controlling for the worldwide Kühne & Nagel Group.

DOMESTIC CANADA has appointed Mr J. Louis Lebel as president and director. A lawyer, Mr Lebel served in Canada with Chevron Standard from 1948 to 1980. He managed that company's land, legal, government relations and public affairs, and was vice-president, director and member of its executive committee. He is a director of six other Canadian companies.

RENAISSANCE ENERGY, the Calgary-based oil and gas operator, has appointed two new directors: Mr Robert E. Dixon and Mr Jonathan Deitcher. Mr Dixon is currently acting as an independent oil and gas consultant prior to which he acted as director, president and chief executive officer of Midland Explorations for a period of six years. Mr Deitcher is a stockbroker in Montreal with Dominion Securities Ames, one of the leading Canadian brokerage firms.

Mr Paul T. Hartung and Mr Victor L. Mock have been named project vice presidents of THE RALPH M. PARSONS COMPANY. Mr Hartung will become project director for Parsons'

work on development of a new, grass roots 250,000 barrel-per-day refining complex for Petromin and Shell at Al-Jubail in Saudi Arabia. Since joining Parsons last year, he has served as manager, project operations for the systems division. Mr Mock has been with Parsons for 15 years and is currently serving as project director for expansion of Arco's oil and gas gathering facilities at Prudhoe Bay on the North Slope of Alaska.

CELANESE INTERNATIONAL CO., a subsidiary of Celanese Corp. has appointed Mr Edward J. Grosse, Jr. as vice-president—Pacific/Europe. Mr Grosse was vice-president, planning for Celanese International Co.

### Spurt in interest charges slows CUB

By Michael Thompson-Moel in Sydney

AUSTRALIA'S largest beer producer, Carlton and United Breweries (CUB), saw a 5.2 per cent improvement in earnings for the half-year to December 31, from A\$21.4m to A\$24.8m (US\$24.2m), despite the fact that the group's interest charges had spurred upwards by 61 per cent, to reach A\$5.3m.

The interim dividend is unchanged at 6 cents a share, covered by earnings that fell from 14.68 cents to 12.85 cents a share because of a recent one-for-five scrip issue. Turnover in the first half was 10.9 per cent higher, at A\$510m. This is partly accounted for by higher beer duties in Australia, though the company said it had improved its market share in Queensland, New South Wales, and the UK.

Earnings for the half-year included dividends from its 49 per cent holding in Elders IXL, plus other associate companies, totalling A\$9.2m, against A\$7.7m previously. Elders IXL, a fast-growing pastoralist group, is expected to earn in the region of A\$68m for the year to June 30 1983, against A\$61.3m last year.

If all profits of associates were equity-accounted, CUB's half-year profit would be in the region of A\$32m. In a statement, the company would only say that the percentage increase in equity-accounted profit would be considerably higher than the increase in the conventional non-equity-accounted profit as disclosed (5.3 per cent).

Interest charges were sharply higher, despite hope of a better cash-flow in the second half of 1981-82 that would have helped the group retire some of the expensive debt incurred during its 1981 foray into Elders.

Tax payments were A\$12.4m, against A\$13.1m.

Westinghouse in Korean deal

By Ann Charters in Seoul

WESTINGHOUSE Electric SA, a subsidiary of the Swiss SA, a subsidiary of the Swiss Electric of the U.S. has signed an agreement with Hyundai Electric Engineering, part of the Hyundai group of South Korea, to form a joint venture to develop industrial and engineering services.

The company, to be based in Ulsan near industrial areas in south-east Korea, will provide industrial apparatus, repair services, electrical and mechanical equipment installation and training services, and field engineering. The market for such services is estimated at \$100m annually, according to Westinghouse Electric SA.



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By: Morgan Guaranty Trust Company of New York, London Agent Bank.

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January 1983



# Opening up Australian banking

IN AUSTRALIA the weather is a political issue, so it is hardly surprising the announcement that about 10 foreign banks were to be allowed into the country as a possible heralding of the opening-up of the market for overseas competition should be greeted as a victory for Mr John Howard, the Federal Treasurer.

The entry of foreign banks was the key recommendation of the Campbell Committee of Inquiry into the Australian Financial System, which published its report 14 months ago.

Some within the Treasury were not impressed with the foreign banks' argument, but Mr Howard has succeeded in his quest — overcoming opposition from within his own department and from parts of the ruling Liberal-National Party coalition, some members of which feared that the entry of foreign banks might cost it votes in this year's General Election.

The significance of Mr Howard's success on the foreign banks issue lies in his position as deputy leader of the Liberal Party and the heir apparent to Mr Malcolm Fraser, Prime Minister. This bodes well, it is widely thought, for further progress along the road to the Campbell Report vision of a more efficient, dynamic and equitable Australian financial system.

Further details of the entry requirements for foreign banks followed this week.

Mr Howard said last week that successful applicants would be required to establish reasonable branch networks, and that other criteria the Government would consider included the level and quality of the Australian equity proposed; the standing and substance of the foreign banks' principals; range and depth of services offered, including branch networks, nature and scale of operations proposed; geographical spread, and whether there was full reciprocity of bank entry in the countries concerned.

Less important, said Mr Howard, would be the applicants' former or current involvement in non-bank financial institutions in Australia, and other financial links with the country, including past involvement in Government and private sector fund-raising.

As a criterion, "geographical spread" is being taken to imply that the initial 10 or so banks granted Australian licences will include at least three from Asia, at least three from North America, and at least three from the EC.

Mr Howard says: "Potential applicants are invited to submit

to me an outline of their longer-term objectives in a detailed plan of intended activities over an initial—say five-year—period, together with an assessment (in detail) of how their participation would benefit the Australian economy."

Within minutes of Mr Howard's announcement, which took Canberra by surprise, Bank of America was the first to say it would be applying for a licence under the terms outlined by the Government, while in a long list growing by the hour, other leading candidates including Citibank, Chase Manhattan, Bank of Montreal and Canadian Imperial Bank of Commerce; Barclays, National Westminster, Lloyds, Midland Bank, Samuel Montagu, Morgan

subsidary with a strong branch network. This week it was announced that Algemeine Bank, of Holland, was taking a 50 per cent stake in Alpine Finance, a subsidiary of Mr Kerry Packer's Consolidated Press Holdings. Alpine will be renamed ABN Australia. It has leasing and commercial hire purchase interests, and will also become involved in money market operations and corporate lending. Its capital base is to be expanded to at least A\$10m.

A crucial issue for most contenders will be the degree of local equity participation required by Mr Howard in the new ventures. The Treasurer said last week that the policy regarding local equity participation would be basically the

same as that applying to non-bank financial intermediaries, which allows scope for entry "on the basis of less than 50 per cent Australian equity where net economic benefits outweigh the general desirability of an effective partnership between Australians and foreigners."

The other major stipulation is that foreign banks wishing to operate in Australia provide a wide range of services, and a reasonable branch network. It is also unclear whether the Treasurer envisages a gradual or mass entry of the chosen 10 into Australia, but it is thought likely that applications will be processed by the middle of the year, given the intense lobbying by foreign banks to which Canberra has already been subjected.

However, Mr Howard has said that it will be "some time, but certainly less than five years," before the Government considered admitting any more. There has been only one new trading bank licence granted in Australia since 1945—to the Australian Bank, which received its licence in February 1981 after putting together a band of 10 shareholders, including Swan Brewery and Myers Emporium, and raising A\$30m (US\$29.7m) in initial capital.

In addition, there has been a contraction in the number of major trading banks operating in Australia, so that now there are only four: Westpac (formed from the merger in 1981 of the

Bank of New South Wales and Commercial Bank of Australia), National Commercial Banking Corporation of Australia (formed from the merger of the Commercial Bank of Sydney and the National Bank of Australasia) group, and the Government-owned Commonwealth Banking Corporation. It was this background, said Mr Howard last week, that underlined the need for foreign competition.

To date, the Australia banking market has been cloistered, cosy, and highly profitable—though margins are under pressure, at present, Westpac, for example, recorded a net profit of A\$215.5m in the year to last September 30, which was only 0.5 per cent higher than the estimated combined profit of A\$214.4m for Bank of New South Wales and Commercial Bank of Australia in 1980-1981. Similarly, ANZ's net profit for the year to last September was A\$180.5m, against A\$175.4m previously.

At the same time, Mr Howard is determined to encourage (or at least not discourage) the formation of new domestic banks. He said last week that the Government would continue to impose no restrictions on new banks with only domestic shareholdings. Indeed, to help the cause, he would amend, if necessary, the Banks (Shareholdings) Act so as to remove "any particular limit on individual shareholdings while maintaining the Government's right to approve all substantial shareholders in a bank." The current limit on individual shareholdings in domestic banks is 10 per cent.

The entry of foreign banks comes after some other, individually minor, relaxations. For some, the Government is still moving too slowly. Mr Bob White, chief executive of Westpac, said it was a major disappointment that the Treasurer had not, in addition to letting in foreign banks, not lifted the controls on all bank lending below A\$100,000.

However, Mr Howard is probably moving as fast as he can. He said last week that the entry of foreign banks, together with other measures announced over the past year, should be seen as a further step in improving the efficiency of the Australian financial system, and that the Government would be considering further recommendations for the Campbell Committee "over the coming period."

With an election in the offing, that is probably as specific as Mr Howard can be.

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## UK COMPANY NEWS

## M. J. H. Nightingale &amp; Co. Limited

27/28 Lovat Lane London EC3R 9EB Telephone 01-421 1212

1982-83		Company	Price Change	Gross Yield		P/E	Fully
High	Low			div.(p)	%	Actual	taxed
152	120	Ass. Bnt. Ind. CULS	152	+	1.0	6.4	7.8
152	117	Ass. Bnt. Ind. CULS	152	+	1.0	6.8	—
74	57	Ampersung Group	66	—	6.1	9.2	7.5
46	36	Armstrong & Rhodes	36	—	4.3	11.9	4.0
260	187	Barton Mills	280	+2	11.4	3.9	12.2
123	100	CCL 11pc Conv. Pref.	123	—	15.7	12.8	—
200	240	Cinco Group	244	—	17.8	7.2	9.8
86	58	Clarendon Services	58	—	6.0	10.3	3.8
153	125	Frank Marshall	153	—	7.9	5.2	6.4
87	61	Frederick Parker	87	—	6.4	9.8	3.3
56	37	George Blair	57	—	—	—	—
100	76	Ind. Precision Castings	76	—	7.3	9.0	3.7
125	100	Isis Conv. Pref.	125	—	15.7	11.8	—
128	94	Jackson Group	126	—	7.5	6.8	3.9
172	111	James Burrough	172	+1	8.6	8.8	12.6
200	170	Robert Jenkins	170	—	20.0	11.8	1.9
83	54	Scrutons "A"	73	—	5.7	7.8	9.5
107	117	Timothy & Carls	117	—	11.4	8.7	5.2
25	21	Unilock Holdings	24	—	0.48	1.3	—
257	214	Walker Alexander	257	—	6.4	6.8	5.2
257	214	W. S. Yeates	257	—	14.5	5.6	6.7

Only prices now available on Prustel page 4814E.

Prices now available on Prestel page 48146.

## Davy profits halved at midway

BY OUR FINANCIAL STAFF

DAVY CORPORATION's pre-tax profits showed a fall for the six months to September 30, 1982, from £8.59 to £3.08m. Sales of the holding company, whose main activities include engineering and construction for the petroleum and chemical industries, slipped from £388.25m to £365.79m.

Mr H. P. N. Benson, chairman, says second half pre-tax profits will be similar to those of the first half, though they are normally higher. The board is, therefore, to reduce the net interim dividend to 1.1p per share, compared with 2.5p last year. Further substantial closure costs

are expected in the second half and Mr Benson says the general level of orders so far this year is below expectations.

For the six months at the attributable level there was a sharp downturn to 3-£3.49m deficit against profits of £2.87m. This was after extraordinary costs of £3.8m (£537,000), comprising reorganisation and closure costs.

Earnings per 25p share were halved from 2.4p to 1.2p. In the last full year, a total dividend of 7.37p was paid from pre-tax profits of £20.42m on sales of £277m.

At the annual meeting last October, the directors warned that there was likely to be a fall in profits in 1982-83.

Trading profits were down in Germany and North America, but the Australian company showed a good improvement.

The profits were also affected by a cost overrun on a large petrochemical contract for the Soviet Union, for which a provision has been made.

In the engineering and construction sector the group is heavily dependent on the oil, chemical and

steel industries, all of which are suffering from reduced demand.

As a result, the group, like other contractors, has been affected by a dramatic fall in new orders, particularly in the U.S., since early 1982.

The profits from the U.S. will be well down for the full year. The group is also experiencing difficulties in its UK manufacturing and foundry companies, where demand continues to decline.

There will be further substantial closure costs in the last quarter, but these will be partly offset by a gain on the disposal of properties in the U.S.

## Mid-year setback to £27m for BET

BY OUR FINANCIAL STAFF

BRITISH Electric Traction Company's first half taxable profits have fallen by £385,000 to £27.07m. With recession continuing in most countries in which the group operates, the directors warn that it will do well to maintain its full year figures at last year's level.

After a much reduced tax charge, earnings per 25p deferred share emerged ahead at 8.4p, against 6.9p, and the net interim dividend is being held at 1.88p—a total of 10p was paid for the 1981/82 year from taxable profits of £37.28m.

Sales of the group, which has interests in oil and gas, electronics, TV and radio, transport, mining and civil engineering, steel construction, publishing, printing and leisure, expanded from £483.86m to £581.88m during the six months ended September 30, 1982.

At the trading level profits totalled £29.08m, compared with £25.38m, but reduced figures from the associates of £3.62m (£3.88m), lower investment income of £3.86m (£4.48m) and higher interest charges of £1.16m (£0.02m) left the pre-tax result down.

There were deductions of £11.07m (£14.07m) for tax, £3.28m (£3.21m) for minorities and £109,000 (£715,000 added) for extraordinary items, leaving attributable figures £1.52m ahead at £12.82m.

In his report Mr Hugh Dundas, the chairman, says improvements

## BRITISH ELECTRIC TRACTION

Transport construction, engineering &amp; mining

Half-year to Sept 30

	1982	1981
Sales	£581.88m	£483.86m
Pre-tax profit	£27.07m	£37.28m
Tax	£11.07m	£14.07m
Minorities	£3.28m	£3.21m
Attributable profit	£1.52m	£1.11m
Dividend	1.88p	0.5p
Share	1.88p	1.88p

in printing and publishing and in the construction-related companies were marginally outweighed by disappointing performances from the transport and open cast mining sectors.

He adds that the deteriorating economic conditions in Canada, South Africa, Australia and Zimbabwe hit the operations of the group's transport interests in those countries while Murray Brothers encountered difficulties as one of its major open cast UK sites.

The group's 75 per cent of the share capital of Murray was sold earlier this month, but its non-mining interests were retained. Further acquisitions have been made this year in the U.S. where Argus Press has bought more magazine publishing businesses and United Transport a road tanker company.

## Eurotherm on target with £4.6m surplus

BY OUR FINANCIAL STAFF

EUROTHERM International, electronic equipment maker, pushed its pre-tax profits up to £4.6m for the 12 months to October 31, 1982, continuing the improved performance of the previous year when figures of £3.7m were reported.

The chairman says the results were in line with the August forecast even though trading conditions deteriorated in the second half of the year.

A final dividend of 4.5p (3.5p) on the capital enlarged by a 10p rights issue raised the total bid by 1.5p to 6.5p per 10p share. A scrip issue on a one-for-one basis is also proposed.

The year saw the emergence of some of the group's smaller companies as significant profit contributors.

A strong order intake by other companies in the winter and early spring created excellent profits for the first six months. In the second half, however, business reverted to a level more in keeping with recessionary conditions.

Increased overheads resulted from the completion of a new factory for Eurotherm Corporation in Reston, Virginia, and the assembly

of teams to represent TCS equipment in the U.S. and Germany. These investments are expected to increase profitability.

The chairman says the policy of expanding the customer base with new product development and by the establishment of new sales companies is of prime importance if growth is to continue, particularly in recessionary times.

Funds secured from the rights issue have placed the group in an "excellent position" to exploit any new market opportunities, and the group intends to enter new areas of business, the chairman says.

Group sales for the year expanded from £27.9m to £35.4m with the UK contribution up by £4.3m to £15m.

The pre-tax figures included debts of £7,000 (£105,000 gain) on the liquidation of foreign subsidiaries and liabilities and £387,000 (£227,000) for net interest charges.

Tax rose from £1.45m to £1.91m. After minorities of £48,000 (£88,000) available profits emerged at £2.62m, against £1.75m previously. Stated earnings per share improved by 6.96p to 21.88p.

## Dixon declines £0.5m

BY OUR FINANCIAL STAFF

DIXONS GROUP profits for the 28 weeks ended November 19, 1982, were down from £2.03m to £1.52m. But directors said the group is accelerating its expansion programme and prospects are favourable for improved year-end results.

The interim dividend is increased from 1.37p to 1.45p net per 10p share—last year's final payment was 2.4p and the taxable surplus amounted to £12.92m (£10.78m).

After a poor start to the half-year there was a marked upturn in business in the second quarter, with the exception of the film processing division, directors said.

They added that since November the retail side experienced extremely buoyant trade.

Sales for the six months were down slightly at £132.59m against a previous £135.99m, and profits were subject to tax of £2.31m, compared with £2.66m. Net profits emerged at £2.32m (£2.43m), which, last time, were improved by an extraordinary credit of £18,000.

Mr Stanley Kalms, chairman, said later that the setback in the processing division reflected the

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## Gold mining companies administered by Anglo American Corporation

All companies are incorporated in the Republic of South Africa

## WESTERN HOLDINGS

Western Holdings Limited

ISSUED CAPITAL: 14 334 376 shares of 50 cents each

Quarter ended Dec. 1982

Quarter ended Sept. 1982

Year ended Sept. 1982

OPERATING RESULTS

GOLD

Area mined—mld 000

To-s mld 000

Yield—g/t

Production—kg

Cost—R/mld mld

R/mld mld

R/mld produced

JMS (See Summary)

Slimes delivered

Tons 000

Head grade

g/t

Slimes—g/t

Slimes—per cent

Slimes—per cent

PRICE RECEIVED ON SALES

G/t

5 or

FINANCIAL RESULTS

Sales—revenue

Costs

Profit

JMS profit

Net sundry income

Profit before taxation and State's share

Provision for taxation and State's share

Profit after taxation and State's share

Profit after taxation and State's share

Deduct:

Appropriation for capital expenditure

Dividend—interim

Dividend—final

Retained profit for the year

Capital expenditure

Total

Capital expenditure

Retained profit for the year

SHAFT SINKING—REFUEL DIVISION

Ventilation shaft

Advance—metres

Depth to gate—metres

Station cutting—metres

Main pump station cutting—metres

DEVELOPMENT

Shaft area

Advance

metres

Channel width

cm

Gold

g/t

cm-g/t

K/t

cm-k/t

HOLDINGS DIVISION

Basic reef

Quarter ended

December 1982

Quarter ended

September 1982

Year ended

September 1982

Year ended

September 1982

Year ended

September 1982

Year ended

September 1982

Year ended

September 1982

Year ended

September 1982

Year ended

September 1982

Year ended

September 1982

Year ended

September 1982

Year ended

September 1982

Year ended

September 1982

Year ended

September 1982

Year ended

September 1982

Year ended

September 1982

## PRESIDENT STEYN

President Steyn Gold Mining Company Limited

and its wholly-owned subsidiary, Video Mining Company Limited

ISSUED CAPITAL: 14 566 400 shares of 50 cents each

Quarter ended Dec. 1982

Quarter ended Sept. 1982

Year ended Sept. 1982

OPERATING RESULTS

GOLD

Area mined—mld 000

To-s mld 000

Yield—g/t

Production—kg

Cost—R/mld mld

R/mld mld

R/mld produced

JMS (See Summary)

Slimes delivered

Tons 000

Head grade

g/t

Slimes—g/t

Slimes—per cent

Slimes—per cent

PRICE RECEIVED ON SALES

G/t

5 or

FINANCIAL RESULTS

Sales—revenue

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Profit

JMS profit

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Capital expenditure

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cm-k/t

HOLDINGS DIVISION

Basic reef

Quarter ended

December 1982

Quarter ended

September 1982

Year ended

September 1982

Year ended

September 1982

Year ended

September 1982

Year ended

September 1982

Year ended

September 1982

Year ended

September 1982

Year ended

September 1982

Year ended

September 1982

Year ended

September 1982

Year ended

September 1982

Year ended



## UK COMPANY NEWS

## House of Fraser delays Harrods demerger plans

BY JOHN MOORE, CITY CORRESPONDENT

HOUSE OF FRASER, the stores group, is delaying its presentation of possible proposals on the demerger of Harrods of Knightsbridge.

Last November, Lomro, the international trading conglomerate, which holds 29.99 per cent of the shares in Fraser, was a round in its long running campaign for influence over the stores group. It gained shareholders' support for a resolution calling on Fraser to formulate proposals for the floating off, or demerger of Harrods. Under the resolution, House of Fraser was requested to report to shareholders on the matter in 90 days.

The deadline would have been reached at the beginning of February. But House of Fraser said yesterday at the end of a board meeting, attended by Lord Duncan-Sandys and Mr Terry Robinson of Lomro, that the deadline was "impractical".

Mr Roland "Tiny" Rowland, Lomro's chief executive, was said by the company to be in Africa yesterday. But Mr Alan Ball, deputy chairman of Lomro, said he was "very disappointed" at yesterday's announced delay.

He said Lomro will be holding a board meeting early next week to

consider the developments. "Obviously we are in touch with our lawyers on the matter," he added. "He added that there had been no indication of the length of time that the House of Fraser would need to complete its deliberations."

At House of Fraser, Mr George Willoughby, a director, said that a number of problems had caused the delay in presenting the demerger proposals.

A 300-page report has been circulated in draft form to the directors of House of Fraser, including the Lomro representatives on the board, on a confidential basis, and to major shareholders, he said. "Originally we asked Lomro to extend the 90-day period not only because of the complexities of the task involved but because it occurred during our main trading period and we wanted to take some of the pressure off. But they declined."

He said the report did not reach any conclusions. "It is meant to be a collection of facts and advice and put it to directors."

The draft report has examined all aspects of the Fraser business and the ramifications of a possible demerger of Harrods, the group's major asset.

## Consortium promises shake-up for UDS

BY RAY MAUGHAN

MR GERALD RONSON and Mr Cyril Spencer aim to "revitalise and develop" UDS retail operations and they believe they can do the job "more successfully than the existing management."

Chairman and chief executive respectively of Bassishaw Investments, the pension fund backed consortium put together to bid for stores group UDS, Mr Ronson and Mr Spencer plan a "limited rationalisation" of UDS outlets with only a small effect on employment levels.

In the formal documents supporting the £10m cash offer, Bassishaw declares that "initial efforts will be directed at the ailing John Collier and Richard Shops chains

where it is believed that the introduction of modern retail management techniques can, over time, make these multiples successful."

Pointing up UDS poor retailing record, Mr Ronson notes that profits have slipped from £28.8m in the year to January 1978 to £8.3m in 1981. The final dividend last year was cut from 3.61p to 1p per share and the subsequent interim dividend for the period to July 31, 1982 was down from 2.6p to 1.6p per share.

UDS shares added 1p to 107p - a 1p premium on the Bassishaw bid terms - on the completion yesterday of a buying order for 500,000 shares.

## RESULTS IN BRIEF

## EYERARDS BREWERY

Brewer, distiller &amp; wine &amp; spirit merchant

Year to Sept 30

1982 1981

Sales £14,520m £15,271m

Pre-tax profit £1,220m £1,500m

Tax £120,000 £62,000

Attributable profit 1,100m 1,438m

Earnings per share 71.4p 67.3p

Dividend 4.5p 4p

Credit

Y. J. LOVELL (HOLDINGS)

Construction property development &amp; timber merchandising

Half-year to Sept 30

1982 1981

Sales £153.81m £131.11m

Pre-tax profit 3.75m 2.18m

Tax £38,000 £51,000

Attributable profit 3.37m 2.67m

Earnings per share 19.5p 15.8p

Dividend 4.5p 4p

Adjusted

MFI

Furniture manufacturer &amp; retailer

Half-year to Nov 21

1982 1981

Sales £105.88m £94.87m

Pre-tax profit 11.25m 7.12m

Tax £1,200m £1,100m

Attributable profit 10.05m 6.02m

Earnings per share 2.85p 2.92p

Dividend 1.4p 1.1p

LEDA &amp; LYLE

Investment trust

Half-year to Dec 31

1982 1981

Sales £447,837 £414,241

Pre-tax profit 118,819 110,003

Tax £1,100m £1,000m

Attributable profit 117,719 109,003

Earnings per share 5.65p 4.99p

Dividend 4.75p 4.49p

GREENFAIR INVESTMENT

Investment trust

Year to Dec 31

1982 1981

Sales £35,216 £13,530

Pre-tax profit 187,538 178,077

Tax £7,251 £6,164

Attributable profit 180,287 171,913

Earnings per share 2.73p 2.97p

Dividend 2.3p 2.3p

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## MINING

## Elandsrand pays 15c in fourth full year

BY GEORGE MILLING-STANLEY

THE END of the quarterly reporting season from South Africa's gold mines is highlighted by a maiden dividend from the Anglo American Corporation's Elandsrand. In only its fourth full year of operation.

The payment of a final dividend for the calendar year 1982, is 15 cents a share. Market expectations had ranged between 5 and 20 cents a share.

The other final dividends from the Transvaal mines in the Anglo group were broadly in line with the market's hopes.

The final 40 cents from South African Gold and Exploration ("Sag") makes a total for the year of 75 cents, against 50 cents in 1981. Southvaal's 210 cents final profits in spite of lower net profits of R80.13m, and makes a total of 330 cents compared with 355 cents in the previous year.

Vaal Reef has again exceeded the previous year's record gold output, and the final payment of 600 cents makes a total of 960 cents for the year, against 980 cents last time. The total from Western Deep Levels of 395 cents, after a final of 280

cents, compares with the 1981 figure of 405 cents.

In general terms, the results for the December quarter from these mines and Anglo's operations in the Orange Free State reflect the higher average gold price prevailing during the period.

Several of the mines curtailed their capital spending, and where this happened it led to increased tax charges and thus lower net profits.

In response to the higher gold price, five of the companies, Vaal Reef, President Brand, Western Deep, Free State Geduld and Sallies lowered their gold grades, leading to lower production.

Nevertheless, the latest quarter's results represent an outstanding performance from Vaal Reef, with net profits up by no less than 53 per cent. This mine raised its capital spending, which gave rise to a lower tax charge.

The mine produced the first gold from the Afrikaner Lease area during the quarter, and this helped to compensate for a lower milling rate on the South Lease area. The South Lease is mined under

tribute to Southvaal Holdings, and royalty payments to this company were lower as a consequence of the slightly lower level of activity. This factor, allied to higher expenses and an increase in taxation, brought about Southvaal's lower net profits.

Another feature of the December quarter's results was the wide variance between the individual mines in terms of limiting the rate of increase in working costs.

Where lower gold grades were combined with reduced milling rates, costs rose substantially, with President Steyn and Western Deep both around 10 per cent higher. This trend is worrying, and will no doubt receive management attention in the current quarter.

The gold prices received by the individual mines are all similar, and broadly in line with the average London closing price for the period of \$427 an ounce.

This is because the Anglo mines generally made little use of the Reserve Bank's permission to hedge their production on the future market, in marked contrast to some of the mines in the other groups.

## Palabora reports sharp rise in copper sales

SOUTH AFRICA'S Palabora Mining, a Rio Tinto-Zinc group member which is one of the few, possibly the only, copper mining companies in the world to be still making a profit, reports a sharp increase in copper sales during the December quarter of 1982.

At 35,851 tonnes they compare with 26,457 tonnes in the previous three months and bring the 1982 total to a record 122,345 tonnes against 113,687 tonnes in 1981.

Prior to the temporary closure of the refinery in March for maintenance work and modifications it became necessary to build up stocks of cathodes in order to meet customer requirements.

When the refinery resumed operations it worked at full capacity but was unable to treat all the anodes available and the resultant cathode production was lower in 1982 than in 1981 so all the cathode stocks were sold.

This left a large stockpile of anodes which will be refined into cathodes (copper metal which has been refined by an electrolytic process) during the current year.

So far Renison has put down 25 drillholes. A further 50 holes are planned for 1983. Taking a cut-off grade of 1 gramme gold per tonne, the deposit is estimated to hold more than 5.1m tonnes grading 3.4 grammes gold per tonne down to a depth of about 150 metres.

Shares of Enterprise Gold Mines rose 8p to 34p in London yesterday, those of Renison remained at 21p.

## Recovery in production at Golden Dumps

SOUTH AFRICA'S Golden Dumps, the company that has taken over the old Consolidated Modderfontein and South, Roodepoort Main Reef Areas gold properties, reports that the former made a net profit in the December quarter of R580,000 (\$580,000) compared with only R25,000 in the previous three months.

Gold-bearing material at Consolidated Modder is derived both from surface dumps and underground mining operations. The past quarter saw a sharp recovery in the amount of surface material treated, with a resultant rise in gold production. Throughput of underground ore also rose, with the result that there was a marked decrease in working costs.

At South Roodepoort, increased gold production and a higher bullion price received resulted in a net profit for the quarter of R233,000, compared with R100,000 in the September quarter.

Both operations, however, incurred capital expenditure amounting to more than the net profits.

## Gold at Pine Creek

BY KENNETH MARSTON

AN ENCOURAGING gold find has been outlined by Australia's Enterprise Gold Mines at Pine Creek, south-east of Darwin in Australia's Northern Territory.

The Consolidated Gold Fields group, via its Australian arm, Renison Goldfields Consolidated, is farming in to the exploration programme with a view to acquiring a 40 per cent interest.

So far Renison has put down 25 drillholes. A further 50 holes are planned for 1983. Taking a cut-off grade of 1 gramme gold per tonne, the deposit is estimated to hold more than 5.1m tonnes grading 3.4 grammes gold per tonne down to a depth of about 150 metres.

Shares of Enterprise Gold Mines rose 8p to 34p in London yesterday, those of Renison remained at 21p.

## Eurotherm International plc

Industrial electronic control and monitoring equipment for world markets

## Preliminary Announcement

The unaudited results of Eurotherm International plc for the year ended 31st October 1982 are set out below:

	Year ended 31st October 1982	Year ended 31st October 1981
<b>Historical Cost Accounts</b>		
Sales		
U.K.	15,801	11,468
Overseas	19,642	16,128
	<b>35,443</b>	<b>27,596</b>
Profit before interest, exchange loss, taxation and minority interests	4,975	3,691
Gain/(loss) on translation of foreign assets and liabilities	(7)	105
Profit before taxation, interest and minority interests	4,968	3,796
Interest received	123	12
Interest paid	(510)	(539)
Profit before taxation and minority interests - Taxation - U.K.	4,581	3,269
- Overseas	(1,155)	(697)
	<b>(758)</b>	<b>(753)</b>
Profit before minority interests	2,827	1,819
Minority interests	(48)	(68)
Net profit	2,619	1,751
Dividends paid/proposed	(831)	(562)
Profit retained	1,788	1,189
Earnings per share	<b>21.86p</b>	<b>14.90p</b>

Note: The 1982 figures are unaudited. The 1981 figures are unaudited but have not yet been audited by the Registrar of Companies in the course of the year.

The following is an extract from the Chairman's statement:

**Results** In the financial year to the 31st October 1982, group sales and pre-tax profits were respectively £35.4m (1981 - £27.6m) and £4,581,000 (1981 - £3,269,000). It is very pleasing to be able to report a continuation of the improved performance of last year. That this result, in line with the forecast made in August, was achieved under trading conditions which deteriorated in the second half of the year is a credit to the efforts of our staff worldwide.

**Trading** In last year's report I expressed the opinion that we had been holding our own in poor trading conditions so that an economic improvement would see us well placed for significant growth. This economic improvement did not occur and our continued success owes much to the ready acceptance of our new products in previously unexplored market areas.

The year saw the emergence for the first time of some of our smaller companies as significant profit contributors. Major orders for SSD and T.C.S. equipment placed in the closing months of the previous year led to high shipments from those companies in the six months to 30th April. A strong order intake by other companies in the winter and early spring created excellent profits for the first six months of the financial year. However, and against the previous trend for better profits in the second half of the year, business reverted to a level more in keeping with recessionary conditions. This, together with the effect of our investment plans, caused the profits in the second six months to be roughly comparable with those in the first. Among the planned sales which increased our overseas sales were the completion of two new factory for Eurotherm in the United States and Germany. These investments can be expected to increase our profitability in the periods ahead, but there cannot be rapid returns from the establishment of new sales organisations overseas; these must be given time to establish their presence in the market place against entrenched competition.

The policy of expanding our customer base with new product development and by the establishment of new sales companies is of prime importance if growth is to continue, particularly in recessionary times. It is our intention to pursue this policy as vigorously as resources permit. Funds secured in the rights issue have placed us in an excellent position to exploit any new market opportunities that might occur. Not all types of market are affected in the same degree by recession and it is our intention to enter actively new fields (technically compatible with our expertise) as opportunities occur.

Practically all the countries in which we trade are in recession and this was reflected in our order book at the end of October. Subsequently, the situation has improved somewhat and I remain convinced that any general economic recovery will lead to significant improvement in the group's performance.

**Dividend and Share Issue** As forecast at the time of the rights issue, the Board is recommending a final dividend of 4.5p per share on the enlarged share capital (1981 - 3.6p) making a total for the year of 6.5p per share (1981 - 5p). Furthermore, as a means of correcting a degree of the imbalance in the capital structure of the company between nominal share capital and reserves, we are proposing a one for one scrip issue.

This advertisement is issued in compliance with the requirements of the Council of the Stock Exchange. It does not constitute an invitation to the public to subscribe for or purchase any securities.

## Schroder Money Funds Limited

(formerly Schroder Sterling Money Fund Limited)

Incorporated with limited liability in Jersey, Channel Islands

At Extraordinary General Meetings held on 5th January 1983 and 20th January 1983, shareholders approved the adoption of new Articles of Association as a result of which the Fund is now able to issue Participating Shares in other currencies in addition to the present Sterling Shares. The Directors initially propose that Sterling, U.S. Dollar, Deutschmark and Swiss Franc Shares should be issued. In order to reflect the changed structure of the Fund it was also resolved that the Fund's former name of "Schroder Sterling Money Fund Limited" be changed to "Schroder Money Funds Limited".

Participating Shares of the Fund are listed on The Stock Exchange.

Particulars of the Fund are available in the Extel Statistical Service and may be obtained from the Manager of the Fund:

**Schroder Management Services (Jersey) Limited**

Waterloo House, Don Street, St. Helier, Jersey, Channel Islands

By order of the Board

Schroder Management Services (Jersey) Limited

21st January 1983.

## The Fleming Technology Investment Trust PLC

	Half year to 30th November 1982	Year to 31st May 1982
Gross Revenue	£748,419	£690,718
Earnings per Share	2.42p	2.08p
Dividend per share	1.60p	1.60p
Net Asset Value per share	266p	205p
Portfolio		
Distribution: UK	55%	60%
Overseas	45%	40%

Investment in technology companies in North America and Japan has increased since these figures were calculated; at the date of this statement the overseas content was 48%.

The Interim Statement to 30th November 1982 and Annual Report to 31st May 1982 are available on request from Robert Fleming Services Ltd, P.O. Building, 122 Leadenhall St., London EC3V 4QR.

## Carroll Industries Limited

## Summary of Results for the year ended 30th September 1982

"In all the circumstances of the past year the results of the Group may be regarded as satisfactory, although within them are to be found elements which if not corrected must cause concern in the years ahead".

(Extract from Statement of Chairman, D.S.A. Carroll)

	Current Cost Convention 1982	1981
Sales	IRE212,318,000	IRE181,560,000
Operating Profit	IRE7,183,000	IRE7,226,000
Attributable to Shareholders*	IRE5,634,000	IRE3,924,000
Operating Profit return on the average of net Operating Assets	13.6%	16.6%
Earnings per Share	11.7p	8.1p
Dividend per Share	7.40p	6.25p
Net Asset Value per Share	93p	77p

\*1981 is before the extraordinary provision of IRE3.0 million in respect of the investment in Fickelred Ireland Limited.

Copies of the Report and Accounts are available on request from

The Secretary,  
Carroll Industries Limited,  
Grand Parade,  
Dublin 6.

## ANGLO NORDIC HOLDINGS PLC

(Incorporated in England under the Companies Act 1982-1986 on 19th November, 1987 and registered in England No. 25363)

Issue of up to £4,596,129 of

10 per cent. Convertible Unsecured Loan Stock 1989

in connection with the offers for Braby Leslie plc.

The Stock is convertible into Ordinary Shares of 5p each on the basis of one Ordinary Share for every 50p nominal of Stock during the month of May in any of the years 1983 to 1989 inclusive. An optional repayment of the principal amount of the Stock on 31st December, 1985 is guaranteed by Standard Chartered Merchant Bank Limited.

The Council of The Stock Exchange has granted permission to deal in the Stock in the Unlisted Securities Market. It is emphasised that the Stock is not being admitted to listing. Particulars of the Stock are available in the Extel Statistical Service and may also be obtained during normal business hours on any weekday (Bank Holidays and Saturdays excepted) up to and including 4th February, 1983 from:

Standard Chartered Merchant Bank Limited, Lang and Cruckshank, 15th Floor, The Stock Exchange, London EC2N 1HA.

## PSIT Property Security Investment Trust p.l.c.

## Interim Report

- Increase in net property income
- Profit before dealing and extraordinary items up
- Interim dividend increased
- Limited switch of assets into fixed interest securities - under constant review
- Directors anticipate a final dividend of 1.5p per share making a total of 2.25p (1982 1.8p) per share for the year.

	6 months to 30.9.82 (unaudited)	6 months to 30.9.81 (unaudited)
Gross rental income	£2,712	£2,711
Net property and investment income after administration expenses	2,839	2,592
Interest	1,917	2,064
Profit before dealing and extraordinary items	922	528
Dividend: preference	49	49
ordinary	334	223
Per ordinary share	0.75p	0.5p



## THE PROPERTY MARKET BY MICHAEL CASSELL

## Hongkong Land feels the draught

TREVOR BEDFORD, tough-talking managing director of Hongkong Land, thinks it is unwise to stay away from home for a moment longer than is necessary.

As chief executive of one of the world's largest property companies, based on a Hong Kong property market finding it hard to support anything other than rumours about the next calamity, Bedford's overseas sorties are brief.

Such is the pace and unpredictability of events at home that his scheduled appearance at this week's London conference on International property—organised by the Financial Times—was cancelled because he had to get back.

By way of compensation, however, there came an invitation to join the former bureaucrat turned high-flying businessman, for a pre-dawn breakfast at the Hyde Park Hotel and to hear his characteristically blunt views on what really is happening in Hong Kong.

"It is in the nature of the place that, once in a while, everything goes over the top. The market is suffering from a classic oversupply of space, nothing more and nothing less. A lot of rot about Hong Kong's political future tends to overshadow the simple fact that there is far too much space available overall."

"We are seeing part of the normal economic cycle and, although it may be two years or more before we can expect a recovery, I see little evidence of a right of capital or of com-

panies shutting up shop and moving on."

With 90 per cent of its profits and assets related to the colony, Hongkong Land could have a great deal to lose if something much more serious lay ahead, so it is hardly surprising that Bedford is working hard at being confident.

Even so, he admits that the group is feeling the draught and it seems fair to assume that it would rather not have forged its connections with Carrian Group, the former property glamour stock which is now desperately trying to stave off whole or partial liquidation.

Bedford rates Carrian's chances of survival as about even but claims that the worst possible outcome would have minimal impact on his own group's position.

In a move which highlighted the growing friendship between the two groups, Land and Carrian Investments last June formed a joint-venture company into which Land injected three blocks of flats valued at around HK\$998m. Carrian is paying for its half-share in instalments but, come the worst, Bedford says the 200 flats would simply be taken back into the group portfolio.

Land and Carrian were also among the partners in the successful HK\$2.8bn bid for the Miramar Hotel site, which will house a 1m sq ft redevelopment scheme. This is not threatened and Bedford emphasises that Land is not abandoning any of its own major schemes.

There are, however, one or two "misnomers" re-

turns. The Ice House Street scheme in Central, being redeveloped with the adjoining Mercantile Bank buildings, is being rescheduled while work has been postponed on a 400-luxury homes development at Redhill, near Stanley. Overseas, the long-awaited deal in Denver with Gerald Hines is still two years off.

Of the existing portfolio, Bedford says voids might rise towards 10 per cent against the more traditional 1 or 2 per cent and he accepts that rent negotiations have become much tougher. In Edinburgh Tower, the new 600,000 sq ft office complex which forms part of the Landmark Centre, lettings are running at \$28-\$31 a sq ft

per month, reflecting zero growth over the past 12 months. Prime office rents in Central—where 2½m sq ft of Land's portfolio is located—are generally off between 5 per cent and 10 per cent from the peak, though Bedford does not expect any further deterioration.

The Connaught II office scheme in Central, which will form part of the rechristened Exchange Square complex and add another 1m sq ft plus to the available stock, proceeds unperturbed.

As Bedford puts it: "Our future lies firmly in Hong Kong. With inquiries already received for half a million square feet in Exchange Square, a lot of other people clearly feel the same."

## Empty space still rising

WITH manufacturing output at its lowest ebb for 16 years, the stockpile of redundant factory and warehouse space in England and Wales has reached yet another peak.

Figures from King & Co show that the rate at which empty buildings are still coming onto the market is continuing to outstrip any increase in the space requirements of manufacturing industry and commerce.

At the end of last year the total volume of empty factory and warehouse space had risen to a record 175m sq ft. This compares with 148m sq ft in the market at the end of 1981. In 1979, the volume of empty industrial space in England and Wales, was only 54m sq ft.

The only comfort to be drawn from the latest floor-space figures is that the surplus of vacant industrial premises is not rising as rapidly as it once was. Given the huge surplus of space, it looks like being another extremely difficult year for industrial property—even if the economy shows any signs of improvement.

According to King and Co the volume of empty space in England and Wales rose by only 4.2 per cent between August and December last year—the lowest four months increase since the end of 1980.

A breakdown of regional markets shows that there has been little change in available floor-space in areas like the east Midlands and East Angles.

## Consumer spending could boost rents

FOR THE first time since the second world war, the persistent, crude surplus "of available accommodation in all sectors, according to agents Edward Erdman.

In its 1982 market review, Erdman says availability of space will mean that only properties meeting the highest criteria in terms of quality and location will attract tenants and perform satisfactorily as investments. Retail stands the best chance of an early revival in any pre-decision consumer boom but short-term yields are vulnerable if projected rental growth fails to materialise.

Shares in Cussins Property showed a useful gain this week following news that it had prelet the main store in its Denmark Centre shopping scheme, South Shields. The 30,000 sq ft store is being taken by Allied Suppliers (Properties) on a 35 year lease at a rent in excess of £200,000 a year. Cussins' current group rental income is about £250,000 a year.

Centre letting agents are Swaisland. Academic Press beat off two contenders to sign at full asking terms a lease for 38,500 sq ft of factory and office space at Joel House, the Heron Corporation-Centrie Securities scheme at Oval Road, close to Regents Park. Rental for the 35 year lease is £155,000 a year. The tenant

was represented by White Michael and Norman Birchfield Hyde & Brown and James Andrew arranged the letting.

Tarmac Properties Southern has purchased and is to refurbish the entire eastern terrace of Bedford Square, W.C.1. The 19 houses will be sold as offices and Leicester County Council Superannuation Fund is purchasing two, with an option on two more. The houses are likely to raise \$1.5m each.

Neville Russell, chartered accountants, are taking an assignment of the Bank of Montreal's premises at 246 Bishopsgate, City of London. Rent for the building, which is £905,200 a year. Richard Ellis acted for Neville Russell and St Quintin advised the Bank.

Sarakreek, the Dutch property investment specialist now listed on the London stock exchange, has paid \$26.8m cash for South Mills Mall, a freehold 462,000 regional shopping centre at Poughkeepsie, New York. Net operating income is estimated at \$2.5m a year, providing Sarakreek with a 9.3 per cent yield.

West of England Ship Owners Insurance Services has taken 40,000 sq ft in International House at the World Trade Centre next to London Bridge. There are now 22 tenants.

## 'Beware the perils of relocation'—Ellis

OFFICE occupiers on the verge of forsaking the seamy streets of London for pastures green and plenty of parking space had better think again.

That, at least, is what some self-imposed exiles have been doing and what any potential imitators should, now, do, according to the 1983 property market report from Richard Ellis.

Ellis, which has more than a passing interest in maintaining the health of London's property markets, refers to the exodus of major office users in the wake of a recession-induced re-examination of their accommodation requirements.

It proclaims, however, that the fundamental attractions of London remain impressive and that many large occupiers have in any case now completed their property assessments. Some, it concedes, will continue to leave but it does not believe the trend will accelerate.

But Ellis goes much further and says there is now evidence which implies that some earlier relocation decisions are now being regretted. Some who left, the report emphasises, are questioning the basic assumptions which originally led to their departure.

It suggests that the benefits in life style and in the utilisation of office technology can be counter-balanced by severe doubts on cost savings seen after a number of years and it underlines the rapid escalation in rents in many of the towns

which have become relocation favourites.

Rent increases, together with the prospect of a commercial rating revaluation in 1985 or 1986, could produce total accommodation costs in some centres not far short of those in London.

But worse is to come. Ellis suggests that companies are also beginning seriously to question the psychological effects on staff of moves out of London. While workers may experience a more attractive life style, shorter commuting hours, less noise and a more relaxed style of business and social life, they may also become just a little bit too relaxed.

According to the report: "It is suggested that the slower pace of life also leads to a diminishing of business efficiency. The pressure created by working in the City of London and the West End can lead to more competitive business attitudes and a keener appreciation of the need for an individual to play a role."

A deeper understanding of the psychological advantages and disadvantages of office and industrial relocation for workers must, Ellis adds, be appreciated by management. "The psychological effect on agents and surveyors of any trend which adds to the mounting surplus of available space in the capital may also prove a matter worthy of further consideration."

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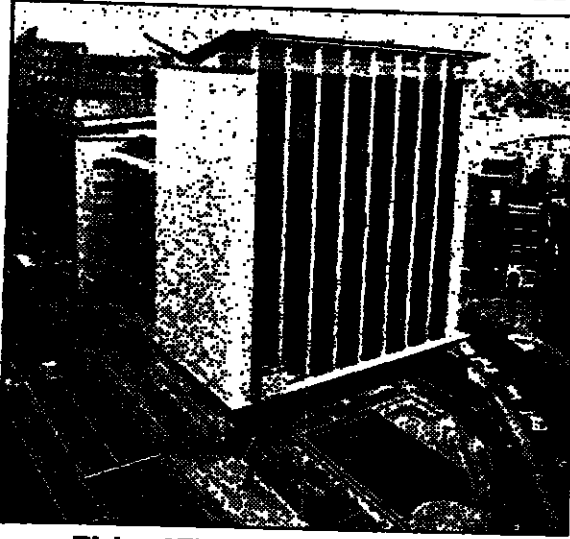


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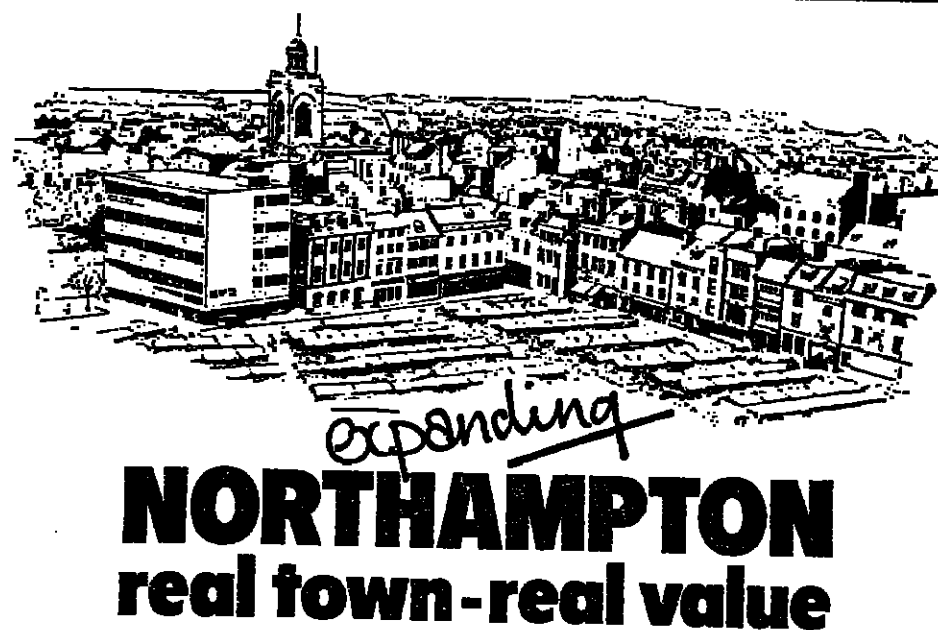
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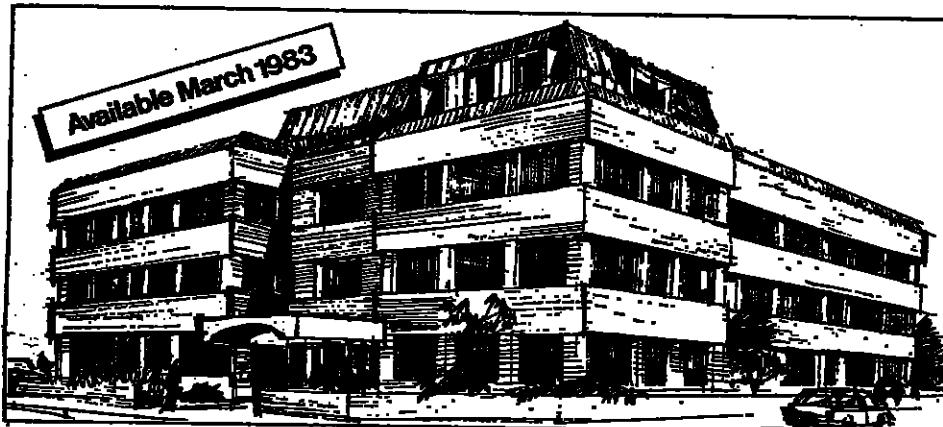
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PUBLICATION DATE: FEBRUARY 25, 1983  
COPY DATE: FEBRUARY 15, 1983

**INTRODUCTION** The UK commercial property market's principal stronghold has held up reasonably well under recessionary pressures, though there are plenty of weak spots. Overall space availability heavily outweighs demand; when will the tables turn?

**OFFICE RENTS** The central city area is one of the few locations in the country to have shown significant rental growth recently. Some rents have now reached £30 a sq ft; what is the short-term outlook for further growth?

**CITY FRINGES** Some outer locations have suffered badly as the demand for office space has dropped. Prospects for their recovery.

**SOUTH BANK** Its attractions as a City overspill look distinctly dubious in current market conditions but will an economic upturn improve its chances? The outlook for some of the schemes proposed and under way.

**INVESTMENT** Has investment interest in City of London property declined in the face of its weakening performance? DEVELOPMENT The pace and scale of new development planned or in the pipeline does not appear to have been seriously affected by the state of the economy. A review of the likely pattern of office completions over the medium-term.

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Government Secs.	78.92	78.90	78.67	78.49	78.56	77.70	77.70	77.70	77.70	77.70	77.70	77.70	77.70	77.70	77.70	77.70	77.70	77.70	77.70	77.70	77.70	77.70
Fixed Interest	80.68	80.63	80.46	80.46	80.46	80.46	80.46	80.46	80.46	80.46	80.46	80.46	80.46	80.46	80.46	80.46	80.46	80.46	80.46	80.46	80.46	80.46
Industrial Ord.	884.8	884.8	884.8	884.8	884.8	884.8	884.8	884.8	884.8	884.8	884.8	884.8	884.8	884.8	884.8	884.8	884.8	884.8	884.8	884.8	884.8	884.8
Ord. Div. Yield	656.8	656.8	656.8	656.8	656.8	656.8	656.8	656.8	656.8	656.8	656.8	656.8	656.8	656.8	656.8	656.8	656.8	656.8	656.8	656.8	656.8	656.8
Ord. Div. Yield	4.79	4.84	4.86	4.81	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85
Earnings, Yld. (Full)	10.39	10.30	10.40	10.39	10.40	10.40	10.40	10.40	10.40	10.40	10.40	10.40	10.40	10.40	10.40	10.40	10.40	10.40	10.40	10.40	10.40	10.40
P/E Ratio (Ind.)	11.56	11.67	11.56	11.72	11.72	11.72	11.72	11.72	11.72	11.72	11.72	11.72	11.72	11.72	11.72	11.72	11.72	11.72	11.72	11.72	11.72	11.72
Total Gains	23,715	24,021	24,768	25,660	25,660	25,660	25,660	25,660	25,660	25,660	25,660	25,660	25,660	25,660	25,660	25,660	25,660	25,660	25,660	25,660	25,660	25,660
Equity turnover Em.	212.71	200.71	228.06	240.45	240.45	240.45	240.45	240.45	240.45	240.45	240.45	240.45	240.45	240.45	240.45	240.45	240.45	240.45	240.45	240.45	240.45	240.45
Equity Gains	19,189	21,144	24,166	28,574	28,574	28,574	28,574	28,574	28,574	28,574	28,574	28,574	28,574	28,574	28,574	28,574	28,574	28,574	28,574	28,574	28,574	28,574
Shares traded (mln)	135.0	133.1	136.8	160.9	160.9	160.9	160.9	160.9	160.9	160.9	160.9	160.9	160.9	160.9	160.9	160.9	160.9	160.9	160.9	160.9	160.9	160.9

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The Notes, in denominations of US\$ 5,000 each, are being issued at 100 per cent. of their principal amount, US\$20 per cent. paid, and the balance of US\$ 80 per cent. is payable on and for value 1st November 1983. The Notes have been admitted to the Official List by the Council of The Stock Exchange in London, subject only to the issue of the Temporary Global Note representing the Notes. Interest is payable annually in arrears on 1st May, commencing in 1984.

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21st January 1983

## INTERNATIONAL CAPITAL MARKETS

### A 129 PER CENT INCREASE IN LOANS

# Record U.S. Eurobond borrowing

BY PETER MONTAGNON, EUROMARKETS CORRESPONDENT, IN LONDON

U.S. CORPORATIONS raised a record \$19.1bn on international bond markets last year, a 129 per cent increase on their \$8.6bn borrowing in 1981, according to figures compiled by Salomon Brothers, the U.S. investment house.

By far the largest part of the increase was accounted for by a massive gain in their issue of Eurodollar bonds. These rose to \$12.5bn from \$5.8bn as yields on the Eurodollar market fell below those prevailing on the domestic bond market in New York.

But U.S. corporations also stepped up their borrowing in other bond markets, including the Swiss franc market where their borrowing rose to the equivalent of \$1.38bn from \$646m and the D-Mark sector with an increase to \$533m from \$32m.

Overall, the Salomon figures show that record primary market business was not just confined to the dollar sector of international bond markets. As interest rates fell around the world the foreign Swiss franc bond market absorbed its highest ever amount of new paper with \$10.8bn compared with the previous record of \$8.5bn set in 1979.

This made the Swiss franc the second most important currency for the international bond market last year. Its share of new business was 15.2 per cent, compared with 9.4 per cent for new international bonds denominated in dollars.

New issues of Canadian dollar bonds at \$1.2bn were also the highest ever as the strength of the Canadian currency against the yen and European currencies prompted heavy demand for such paper, particularly in the first half of the year. In the Samurai bond market new issue volume rose 20 per cent to an equivalent of \$3.1bn.

LEADING ISSUERS OF INTERNATIONAL BONDS (total raised \$m)			
	1982	1981	1980
1 World Bank	5,770	3,852	2,632
2 IBM	1,873	1,472	2,438
3 Sweden	1,432	1,208	2,268
4 Hydro-Quebec	1,100	1,050	1,000
5 Australia	1,148	792	909
6 IADB	1,019	785	785
7 Canada	1,009	699	719
8 GMAC	932	669	715
9 New Zealand	871	650	700
10 Credit Lyonnais	871	550	583
11 EDC (Canada)	725	522	522
12 Deutsche Bank	710	517	443
13 Ontario-Hydro	700	515	460
14 Ontario	700	508	474
15 ADB	670	502	536

Source: Salomon Brothers

Among other major sectors D-Mark issues saw a marked recovery with total new issue volume accounting for \$5.3bn compared with \$2.5bn in 1981. This did not, however, match the peak of \$8.7bn achieved in 1980.

As already reported Salomon's statistics show that total new issue volume in international bond markets of just over 40 per cent last year to a record \$71bn, but its more detailed figures, published today, show that this was not a one-way movement in every single sector.

In particular new issues of Yankee bonds (foreign bonds placed in the U.S. market) slipped to \$6.4bn from \$7.2bn as these became relatively more expensive to borrowers than Eurodollar issues. Salomon has already recorded that Yankee issues offered a total return to investors of just over 40 per cent last year, the highest for any type of international security.

WEEKLY U.S. BOND YIELDS (%)			
	Jan 19	Jan 12	1982-83
Composite Corp. AAA	11.27	11.18	15.18
Composite Corp. AA	11.55	11.51	15.83
Long-term	10.60	10.41	14.32
Intermediate	9.98	9.95	14.26
Short-term	9.23	9.27	14.57
Municipal	N/A	9.28	13.24
Govt 10 1/2% AAA	11.04	10.98	14.78
Govt 10 1/4% AAA	11.43	11.34	15.13
Govt 10 1/2% AA	11.50	11.48	15.59
Govt 10 1/4% AA	11.67	11.67	16.13
Preferred Stocks	11.18	11.16	13.85

Source: Standard & Poor's

New issuance of international bonds in sterling was also a record at \$1.9bn, but here again the gains were confined to the Eurosterling market which absorbed \$788m equivalent of new paper compared with \$276m in 1981, while issues of "bulldog" bonds in the domestic market fell slightly to \$1.89bn from \$1.91bn.

Among individual issuers the World Bank retained its position as the largest single borrower in international bond markets. In 1982 three new borrowers—Credit Lyonnais, Deutsche Bank and Ontario Hydro were counted among the top 15 borrowers for the first time.

By group, Canadian borrowers were also highly active, issuing a record \$11.5bn in new international bonds compared with \$10.5bn in 1981. At this level their borrowing was still slightly higher than that of supranational organisations which raised \$11.1bn.

French borrowers more than doubled their borrowing in bond markets last year to \$7.6bn, including a record \$4.1bn in floating-rate notes. This reflected heavy borrowing by the French Government on the domestic market which crowded out other borrowers and the desire of the French Government to shore up the franc.

Salomon Brothers notes that new record coupons were set in most sectors of the international bond market last year, but the lowest coupons seen in 1982 were also much lower than the lows of 1981 as interest rates fell in the second half.

In most currency sectors there was also a shift in the maturity of new issues towards the medium term (5-10 years) from both the short and long end of the maturity spectrum.

## Williams and Glyn's in \$100m bond

By Alan Friedman in London

WILLIAMS AND GLYN's bank, the smallest of the major UK clearing banks, yesterday launched a \$100m 10-year Eurodollar bond into a market still reeling from the weight of nearly \$6bn of new dollar issues which have been offered in the past three weeks.

The coupon is 11 per cent at par and only 30 per cent of the purchase price is payable now; the balance is due in June. Hill Samuel is lead-managing the deal, which involves an interest rate swap transaction whereby a counterparty will pay the fixed rate coupon, while Williams and Glyn's will obtain floating rate debt at a rate below the London interbank offered rate (Libor).

The issue was not well received initially, largely because of the sizeable burden of new issues and investor apathy to new deals which provide lower yields than seasoned bonds in the secondary market.

At Williams and Glyn's, an executive director admitted that the timing of the issue was related to the interest rate swap counterparty. "One has to do these things when all the skittles are set up in a row. We were a bit unlucky to have all the skittles set up just at a time when the market is in a state." After a drop of nearly one point in Eurodollar bond prices on Wednesday, the market saw prices marked down a further 1/4 to 1/2 point yesterday. New issues such as Texaco's 9% per cent bond were hardly selling, and changed hands only at a large discount of 3/4 per cent from an issue price of 99 1/4.

A large number of new issues are suffering: the recent L.C. Industries 12 per cent bonds were at a 3 per cent discount last night, the new 9% per cent General Electric bonds at a 3 per cent discount, while the new BASF 9% per cent bonds were trading as low as 96, a 4 per cent discount from par.

Yet new issues are still coming thick and fast. The Industrial Bank of Japan (IBJ) is out with a \$100m seven-year 10% per cent issue priced at 99 1/4 to yield 10.92 per cent. IBJ and Morgan Stanley are lead-managing this deal and a co-manager admitted last night that the timing was "not appropriate".

Hoechst, the West German chemicals group, is raising \$80m through a 10-year Eurobond with detachable warrants to purchase equity. Dresdner Bank is lead-managing the 8 per cent issue.

In West Germany, Euro D-Mark bond prices were down by 1/4 to 1/2 point last night as the market reacted to a strong dollar, uncertainty about the forthcoming elections and interest rates.

A DM 150m seven-year issue is out for Nippon Steel. Deutsche Bank is leading the 6% per cent deal, which is priced at 99 and was last night being quoted at a discount of 1/4 per cent.

In Switzerland, foreign bond prices closed slightly down as the market followed the New York bond market and the soggy Eurodollar market. The new 4 per cent IBM placement was going well yesterday and strong demand was reported despite the low coupon.

## FT INTERNATIONAL BOND SERVICE

The list shows the 200 latest international bond issues for which an adequate secondary market exists. For further details of these or other bonds see the complete list of Eurobond prices published on the second Monday of each month. The following are closing prices for January 20.

U.S. DOLLAR										
STRAIGHTS	Issued	Yld	Offer	Change on	Yield	New Zealand \$/6 87 -----				
Amstar 15 1/2% 87	150	132	110 1/4	-0-1/8	11.81	157	107	100	+0-1/4 +1	6.53
Amstar 15 1/2% 88	150	132	110 1/4	-0-1/8	11.81	207	106 1/4	100	-0-1/8 -0-1/4	7.44
Amstar 15 1/2% 89	175	126 1/2	108 1/4	-0-1/8	11.81	At price changes on day -1/8, on week -1/8				
Amstar 15 1/2% 90	200	126	108 1/4	-0-1/8	11.81					
Amstar 15 1/2% 91	150	132	110 1/4	-0-1/8	11.81					
Amstar 15 1/2% 92	150	132	110 1/4	-0-1/8	11.81					
Amstar 15 1/2% 93	150	132	110 1/4	-0-1/8	11.81					
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Amstar 15 1/2% 96	150	132	110 1/4	-0-1/8	11.81					
Amstar 15 1/2% 97	150	132	110 1/4	-0-1/8	11.81					
Amstar 15 1/2% 98	150	132	110 1/4	-0-1/8	11.81					
Amstar 15 1/2% 99	150	132	110 1/4	-0-1/8	11.81					
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Amstar 15 1/2% 14	150	132	110 1/4	-0-1/8	11.81					
Amstar 15 1/2% 15	150	132	110 1/4	-0-1/8	11.81					
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Amstar 15 1/2% 45	150									



150-100

MARKETS  
Borrowing

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## SECTION III - INTERNATIONAL MARKETS

# FINANCIAL TIMES

Friday January 21 1983

France offers chance  
to young  
farmers, Page 27

### WALL STREET Oils feature on hopeful Opec signs

HOPES of an Opec agreement to cut oil production spurred heavy early buying of oil stocks on Wall Street yesterday. Their strong performance distinguished them on a colourful sea of mixed trading in most other sectors, writes Duncan Campbell-Smith in New York.

The Dow Jones industrial average was up nearly six points by midday but then began a steady reversal. By 2pm it was down just one point at 1067.04 on a trading volume approaching 60m shares.

The 10 most active stocks at one stage included no fewer than seven oil companies, after trading in several had been delayed at the opening by the weight of buy orders. Another of the actives was Schlumberger, the oil services company, which was up 3 1/2% by midsession to \$50 1/2.

Gains in the oil group, building on earlier strength on Wednesday, were evident both in the major international and those primarily dependent on U.S. reserves. At 2pm, Mobil was up 1 1/2% to \$27 1/2, Exxon 5/8% to \$31, Gulf 3/4% to \$32 1/2 and Texaco 1/2% to \$32 1/2. Among the integrated domestic producers, Standard Oil of Indiana was up 1 1/2% to \$46 1/2, Union Oil of California 1 1/4% to \$33 1/2 and Phillips Petroleum 1 1/4% to \$35 1/2.

One heavily traded non-oil stock was Citicorp, up 1/4% to \$34 1/2 by the early afternoon. Most other major banks were also ahead, recovering some of the ground lost by the sector in earlier sessions this week.

Another corrective move featured the high-technology issues which have been market leaders this year. The group declined for the second consecutive day, with IBM down 1 1/2% to \$97 and Digital Equipment 3/4% to \$103 1/2.

Federal funds recovered their poise after an eventful weekly settlement day on Wednesday. The wire network connecting the banking system to the Chicago Federal Reserve Bank failed in the early afternoon, leaving a number of banks stranded with inadequate reserves. Most finally settled late in the evening. Yesterday Fed funds traded around the 8 1/4% per cent level.

But dealers in the money markets said the movement of the funds rate had been disquieting in recent days, even ignoring Wednesday's action, and expectations of an imminent discount rate cut were waning. Treasury Bill prices were several basis points lower yesterday, with the three-month bill's discount yield up to 7.76 per cent at midsession and the six-month bill up to 7.86 per cent.

Trading volume was again very low throughout the Government debt market and dealers described the market as very unsure of itself. The new two-year note traded around Wednesday's issuing yield of 9.25 per cent. Prices at the long end were little changed after Wednesday's heavy fall but short to intermediate-term securities fell another eighth to quarter of a point.

A similar trend emerged in Toronto, with oils buoyant but a mixed picture in

the rest of the market. Apart from the majors, Canada Northwest Energy and Asamera made substantial advances. Papers, consumer products and metals also improved slightly.

### LONDON Caution is the watchword

THE UNDERLYING tone in London stock markets was extremely cautious yesterday. Most leading equities, however, edged a little higher and government stocks put on another reasonably steady performance in sympathy with a more stable trend in sterling.

Overall trading conditions remained thin, and the Government's changed attitude in ruling out an immediate increase in interest rates as a short-term means of defending any further pressure on the pound failed to clear the current exchange rate uncertainties.

Government stocks continued to fluctuate narrowly, particularly at the long end of the market where quotations finished with falls of 1/4 Short-dated stocks, however, benefited from slightly easier conditions in money markets and showed to advantage with gains extending to 1/2. A new Treasury index-linked 2 1/2 per cent issue dated 2016 made a quiet debut.

The overnight setback on Wall Street made for a wary start in the equity leaders, but further selective investment support encouraged a gradual improvement. This was reflected in a progressive firming in the FT Industrial Ordinary index which closed 3.2 higher at the day's best of 624.8.

A placing of around 3.3m Plessey shares through the market at 58 1/2p was completed very quickly and had little overall impact, although the market price of Plessey shed 1/2p to 58 1/2p. Electricals otherwise remained subdued by a Rascal warning of a slowdown in profits growth.

The oil majors, inclined easier initially on Wall Street influences, steadied as various soothing statements from Opec oil ministers filtered through ahead of Sunday's meeting in Geneva. When signs emerged that Saudi Arabia might accept a further output cut to maintain the \$34 a barrel benchmark, quotations took a distinct turn for the better.

British Petroleum ended a net 8p up at 334p after 322p, while Shell closed the same amount dearer at 442p after 432p. Ultramar rose 17p for a gain on the week so far of 57p to 575p.

South African golds gave up more or less all of Wednesday's gains as the pressure on bullion, which had built up in overnight U.S. markets, followed through into London where the price dipped to around \$485 at one point before recovering somewhat.

The shares consequently opened sharply lower and tended to mark time throughout the session. Exceptions were West Rand Consolidated, which jumped to 48 1/2p before closing a net 7 1/2p up at 48 1/2p following encouraging results in its December quarter, and several of the mines in the Gold Fields group which continued to attract support from Johannesburg. Libanon moved up 1/2% to attract support from Johannesburg. Libanon moved up 1/2% to a record £25.

Elsewhere, engineering shares were featured by a drop of 2 1/2p to 59p in Davy Corporation following a contraction in first-half profits, a surprise halving of its interim dividend and a gloomy accompanying statement.

### FAR EAST No reprieve in sight for Tokyo

A SLIDE in Tokyo share values this week showed no signs of abating yesterday. Interest rate worries emerged afresh to disconcert sentiment already subdued by the yen's weakening against the dollar, high levels of margin debt on the Japanese exchanges, and Wall Street's poor showing.

Investors were responding to reports that an expected cut in the Japanese discount rate might be postponed, at least by a few weeks, in the light of the softer yen. This was given some substance after the close of trading when Mr Haruo Mayekawa, governor of the Bank of Japan, implied at a press conference that he did not view conditions as ripe for a cut.

He said the most important prerequisite was to ensure "that the trend for a strong yen is very firm." He saw no clear-cut reasons for its recent losses but also noted a growing belief that interest rates worldwide might not come down as swiftly as had been expected.

The Nikkei-Dow Jones market average shed a further 45.37 for a three-day decline of nearly 160. Trading was light, however, at 240m shares as many waited for an interest rate pointer from the German Bundesbank.

Prices moved without much conviction through most of the session but started sinking fast towards the close. Computer makers, cars, precision, defence-related issues and light electricals led the decline, but domestic industrials were bought selectively.

Sony, which announced a ¥30bn, six-year unsecured convertible domestic bond, shed ¥90 to ¥3,400.

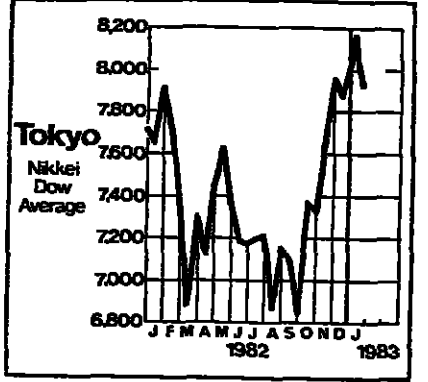
Government bond prices finished lower in this trading after firming fractionally in the afternoon.

Stocks in Hong Kong struggled to hold their ground amid selling by local investors, continuing overseas buying orders, however, enabled values to emerge slightly higher on the day, building on the rally which has developed this week in the face of the Tokyo trend.

Many brokers still expect a downward correction, and said prices yesterday were guided by technical factors rather than fundamentals. Wall Street's performance continues to be closely watched.

Swire Pacific managed a 30 cent gain to HK\$10.90 and Hang Seng Bank improved 75 cents to HK\$10.90. The Hang Seng index edged up 2.02 to 908.56, helping consolidate its hold above the difficult 900 mark.

Buying support alternated with profit-taking in Singapore to produce a narrowly mixed result. Properties continued an adjustment to the results of the latest land sale by the Urban Redevelopment Authority.



Banks fared badly, with Commerzbank off DM 1.90 at DM 126.50 and Deutsche Bank DM 3 lower at DM 136. Dresdner held, however, at DM 136.

Public authority bond prices were static on minimal turnover. Dealers pointed to interest rate nervousness reflected in a 20-point rise in yields on long-dated issues in the past week. The Bundesbank was required to buy only DM 5.7m of paper after Wednesday's exceptional DM 107.7m worth.

Belgian and foreign shares moved irregularly lower in moderate Brussels trading. Falls of about 2 per cent each were recorded by Sofina, Clabecq, Mosane and Cometra.

Petrofina eased Bfr 15 to Bfr 4,630 despite industry reports that it is likely to announce sharply higher earnings for last year. A company official attributed its performance to an ability to "buy oil less expensively than many others are able to do," and admitted surprise that its stock price has languished of late.

A lack of new initiatives in Zurich left prices mixed, with banks a weak feature. One broker attributed this to a recent announcement that the Swiss Banking Commission is to require banks to set aside greater reserves to cover credit risks, therefore dampening hopes of higher dividends.

Industrials were brighter but lacked substantial advances. The Swiss bond market finished a lacklustre day little altered.

A near-doubling in the French trade deficit to FFr 93.3bn last year was in line with expectations on the Paris bourse, where investors confined themselves to adjusting positions ahead of the end of the monthly account, leaving prices slightly firmer.

A discount rate cut did emerge in Stockholm - down a point to 9 per cent effective from today - but Swedish investors appeared largely unimpressed. The market continued a retreat from the high levels reached around New Year, with only the bank shares showing much encouragement.

Late rallies by some Dutch international firms trimmed losses in Amsterdam. KLM was notable for a FI 4.10 boost to FI 153.30. Royal Dutch added FI 2.1 to FI 100.30.

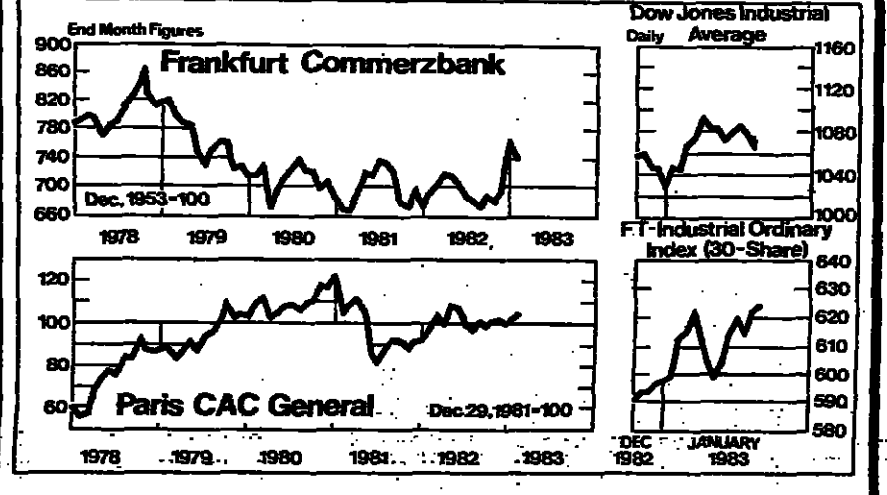
Thin and nervous trading in Milan left prices mixed to lower. Firmness in commercial banks enabled Madrid to hold at Wednesday's improved levels.

### EUROPE German rate reaction to come today

OPERATORS on the Frankfurt bourse were unwilling to take up positions ahead of the Bundesbank council meeting yesterday, and shares finished barely steady after a lethargic session.

Investors' suspicions that the central bank would hold off from cutting major interest rates were confirmed, but the news - along with the compromise decision to raise banks' rediscount quotas and thus provide a cheaper source of funding - came just as the day's last deals were being made and stock values could not react.

### KEY MARKET MONITORS



STOCK MARKET INDICES			
NEW YORK			
	Jan 20	Previous	Year ago
DJ Industrials	1067.04	1065.06	845.89
DJ Transport	458.16	457.25	347.12
DJ Utilities	126.45	124.49	104.18
S&P Composite	145.44	145.27	123.79
LONDON			
FT Ind Ord	624.8	621.6	545.8
FT-A All-share	396.27	395.07	315.39
FT-A 500	404.54	403.84	343.89
FT-A Ind	404.35	401.68	311.42
FT Gold mines	656.3	654.2	266.5
FT Govt scts	78.92	78.90	63.65
TOKYO			
Nikkei-Dow	7,923.31	7,968.68	7,717.23
Tokyo SE	581.84	584.56	571.28
AUSTRALIA			
All Ord.	536.2	538.3	544.4
Metals & Mins.	477.8	480.2	380.2
AUSTRIA			
Credit Aktien	49.48	49.51	54.86
BELGIUM			
Belgium SE	105.06	104.93	86.42
CANADA			
Toronto Composite	2057.3	2055.1	1777.5
FRANCE			
CAC Gen	103.15	102.6	102.60
Ind. Tendance	104.90	102.5	107.9
WEST GERMANY			
FAZ-Aktien	244.92	245.45	220.63
Commerzbank	736.1	739.9	674.0
HONG KONG			
Hang Seng	908.56	906.54	1397.08
ITALY			
Banca Coml.	174.94	174.73	190.93
NETHERLANDS			
ANP-CBS Gen	104.3	104.4	85.9
ANP-CBS Ind	88.5	88.9	85.8
NORWAY			
Oslo SE	115.69	118.70	126.91
SINGAPORE			
Straits Times	768.22	765.53	765.35
SOUTH AFRICA			
Gold	n/a	1073.0	514.3
Industrial	n/a	820.7	704.2
SPAIN			
Madrid SE	102.06	101.66	127.62
SWEDEN			
J & P	1002.0	1006.3	650.74
SWITZERLAND			
Swiss Bank	295.7	296.2	256.2
GOLD (per ounce)			
	Jan 20	Prev	
London	\$492.50	\$497	
Frankfurt	\$493.25	\$495.50	
Zurich	\$491.50	\$496.50	
Paris	\$493.25	\$497.45	
London futures (Feb)	\$494.50	\$497.10	

district turn for the better.  
 British Petroleum ended a net 8p up at 334p after 322p, while Shell closed the same amount dearer at 442p after 432p. Ultramar rose 17p for a gain on the week so far of 57p to 375p.

South African golds gave up more or less all of Wednesday's gains as the pressure on bullion, which had built up in overnight U.S. markets, followed through into London where the price dipped to around \$485 at one point before recovering somewhat.

The shares consequently opened sharply lower and tended to mark time throughout the session. Exceptions were West Rand Consolidated, which jumped to 483p before closing a net 73p up at 487p following encouraging results in its December quarter, and several of the mines in the Gold Fields group which continued to attract support from Johannesburg. Libanon moved up 6p to attract support from Johannesburg. Libanon moved up 6p to a record £25.

Elsewhere, engineering works were featureless, with the 200-ton

### AUSTRALIA Lower bias

RESOURCES and industrials fell victim to profit-takers in Sydney, although trading activity centred on gold stocks and heavyweights miners which have significant gold interests. These and the broader market drifted lower, but few sharp falls were in evidence.

MM and Western Mining fell three cents each to A\$4.25 and A\$4.17 respectively.

The retreat in bullion and metal prices affected resources similarly in Melbourne. Golds held relatively well under selling pressure, but declines overall outnumbered rises for the first time this year. Oils were lightly traded and mainly steady.

### SOUTH AFRICA Losses pared

A PARTIAL late recovery by gold shares occurred in Johannesburg on the back of a bullion price which recouped some earlier losses.

Stock price falls still predominated over gains by about two to one. Among the hardest hit in the heavyweight league was Libanon, off R1.25 to R51 after R50, while in mining financials Anglo-American shed 30 cents to R24.90 ahead of quarterlies for its gold mines.

Platinums also eased but industrials continued very firm.

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\*Based upon the NEEDS-CASMA rating, published by the Japanese economic journal Nihon-Keizai Shimbun.



## NEW YORK

## NEW YORK STOCK EXCHANGE

### Indices

	Jan 20	Jan 19	Jan 18	Jan 17	Jan 16	Jan 15	1982-83	Since Completion
							High	Low
Industrials	1079.82	1084.85	1079.65	1084.81	1080.85	1072.35	1082.35	1072.35
Transport	459.8	467.35	468.08	469.27	467.88	468.15	471.81	471.81
Utilities	125.78	124.48	124.4	124.58	124.83	124.88	125.22	125.22
Trading vol 10000 x	8279	8088	7838	8821	8848	7763	-	-
and day yield %							5.01	5.02
							5.17	5.52

### YAHAMBAH AND PHOENIX

	Jan 20	Jan 19	Jan 18	Jan 17	Jan 16	Jan 15	1982-83	Since Completion
							High	Low
Industrials	184.58	182.35	184.5	184.73	184.81	183.43	184.73	184.73
Composite	148.31	145.27	148.4	148.71	148.55	145.73	148.71	148.71
and day yield %							4.29	4.25
vol. P/E Ratio							11.29	11.39
avg. Dividend Yield							18.50	18.41

### RISKS AND FALLS

	Jan 20	Jan 19	Jan 18	Jan 17	Jan 16	Jan 15	1982-83	Since Completion
							High	Low
Industrials	357.11	354.14	358.71	358.28	358.21	358.21	358.21	358.21
Composite	287.3	285.1	287.3	287.3	287.3	287.3	287.3	287.3

### NEW YORK Active Stocks

Thursday	Stocks Traded	3.00 p.m. Price	Change on Day	Stocks Traded	3.00 p.m. Price	Change on Day
Gold	1,343,100	274 1/4	+1 1/4	Super Oil	248,300	33 1/4
Oil	1,286,400	27 1/2	+3/4	East Oil	211,500	27 1/2
Oil	1,228,500	27 1/2	+2	Mid-Six Oil	227,300	15 1/4
Oil	988,000	34 1/4	+1 1/4	Bankers	210,000	18 1/4
Paradise	857,200	18 1/4	-1/4	Scholar	807,100	18 1/4

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## LONDON TRADED OPTIONS

LONDON TRADED OPTIONS

Option	CALLS						PUTS									
	Jan.			April			Jan.			April						
	July	Jan.	April	July	Jan.	April	July	Jan.	April	July						
BP (USP \$80)	290	48	56	—	1 1/2	5	SHL (USP 435)	360	80	95	—	360	50	68	1 1/2	—
"	300	38	58	46	1	12	"	390	50	60	68	"	60	1 1/2	7	
"	350	6	16	20	24	32	"	420	50	62	40	"	62	1 1/2	16	
"	360	0 1/4	17	25	26	42	"	450	5	14	24	"	64	24	32	
COF (USP 554)	290	167	170	172	1	5	Option		Feb.	May	Aug.	Feb.	May	Aug.		
"	300	167	140	142	1	5	BSL (USP 410)	350	—	—	—	350	—	—	—	
"	420	167	140	142	1	5	"	360	55	60	65	2	8	—	—	
"	480	97	102	105	1 1/2	5	"	390	—	—	—	—	—	—	—	
"	500	97	97	84	—	10	"	420	10	10	48	6	18	24	—	
"	550	16	48	57	15	27	"	450	20	25	52	17	32	32	—	
CTD (USP 74)	70	6	10	12	1	3 1/2	IMP (USP 129)	90	24	25	—	90	24	25	—	
"	80	1	5	7	1	8	"	100	24	25	—	"	1	2	5	
"	90	1	1 1/2	7	17	18	"	110	19	10	20	1	7	12	—	
"	100	0 1/4	—	—	—	—	"	120	5	4 1/2	—	—	—	—	—	
CUIA (USP 144)	120	25	28	31	1	4	LMC (USP 200)	280	42	50	62	6	12	20	—	
"	130	15	17	18	5	5	"	300	27	40	52	12	17	32	—	
"	140	7	10	11	8	10	"	350	10	12	20	5	10	20	—	
"	160	7	1	6 1/2	9	17	"	360	4	12	—	—	—	—	—	
"						25	"	390	5	5	—	62	92	—	—	
GEC (USP 304)	157	49	—	—	2	2	LNR (USP 95)	80	40	30	—	80	40	30	—	
"	177	29	—	—	2	2	"	70	20	10	—	70	20	10	—	
"	187	13	—	—	2	2	"	60	20	20	22	1	2	2 1/2	—	
"	200	5	22	—	4	10	"	50	10	10	14	1 1/2	5	11	15	
"	217	1	18	16	16	20	"	40	5	6	8	—	—	—	—	
"	220	—	—	—	—	—	"	30	—	—	—	—	—	—	—	
"	237	1	5	—	18	36	P & O (USP 119)	100	20	24	25	2	5	5	—	
"	248	—	—	—	—	—	"	110	11	16	19	6	7	11	—	
"	260	0 1/2	8	8	68	68	"	120	5	5	8	13	17	21	—	
"							"	130	2	2	—	15	27	—	—	
"							"	140	0 1/2	—	—	48	27	—	—	
GMH (USP 246)	214	128	—	—	1	—	"	150	—	—	—	—	—	—	—	
"	220	127	—	—	—	—	"	160	—	—	—	—	—	—	—	
"	240	107	110	80	1	1	"	170	—	—	—	—	—	—	—	
"	260	57	70	78	1	4	"	180	—	—	—	—	—	—	—	
"	300	67	80	86	1	5	"	190	—	—	—	—	—	—	—	
"	320	16	28	36	2	12	"	200	—	—	—	—	—	—	—	
"	350	2	15	21	17	22	"	210	—	—	—	—	—	—	—	
"						38	"	220	—	—	—	—	—	—	—	
ICI (USP 588)	290	158	132	—	0 1/2	2	RCL (USP 458)	480	22	—	—	2	—	—	—	
"	300	115	113	—	2	2	"	490	22	—	—	11	16	—	—	
"	350	27	30	—	1	2	"	500	—	—	—	27	37	40	44	
"	360	94	92	98	1	2	"	510	8	16	42	27	37	40	44	
"	370	54	62	68	5	4	"	520	2	2	2	10	127	127	127	
"	380	26	40	40	1 1/2	18	"	530	2	2	2	10	127	127	127	
"	390	5	18	26	22	26	"	540	—	—	—	107	127	127	127	
"							"	550	—	—	—	107	127	127	127	
LS (USP 286)	240	47	52	—	1	2	RTZ (USP 522)	350	260	125	—	—	1	2	2	
"	260	27	52	39	2	9	"	380	105	107	112	7 1/2	1	2	10	
"	280	25	52	39	10	18	"	410	60	60	65	10	22	22	22	
"	300	1	6	14	15	19	"	440	27	50	55	10	28	28	28	
"						32	"	470	11	26	36	27	49	49	49	
"							"	500	—	—	—	—	—	—	—	
"							"	530	—	—	—	—	—	—	—	
"							"	550	—	—	—	—	—	—	—	
M & S (USP 308)	140	69	—	—	—	—	VHF (USP 115)	55	60 1/2	58 1/2	—	0 1/2	1	1	—	
"	160	49	53	—	1	5	"	60	56 1/2	55 1/2	—	0 1/2	1	1	—	
"	180	28	54	58	2	1 1/2	"	70	42 1/2	40 1/2	—	0 1/2	1	1	—	
"	200	9	19	27	2	5	"	80	36 1/2	35 1/2	—	0 1/2	1	1	—	
"	220	5	10	15	14	19	"	90	30 1/2	28 1/2	—	0 1/2	1	1	—	
"	240	0 1/4	4	5	24	27	"	100	25 1/2	24 1/2	—	0 1/2	1	1	—	
"						41	"	110	20 1/2	19 1/2	—	0 1/2	1	1	—	
"							"	120	15 1/2	14 1/2	—	0 1/2	1	1	—	
"							"	130	10 1/2	9 1/2	—	0 1/2	1	1	—	
"							"	140	5 1/2	4 1/2	—	0 1/2	1	1	—	
"							"	150	1 1/2	1 1/2	—	0 1/2	1	1	—	
"							"	160	—	—	—	0 1/2	1	1	—	
"							"	170	—	—	—	0 1/2	1	1	—	
"							"	180	—	—	—	0 1/2	1	1	—	
"							"	190	—	—	—	0 1/2	1	1	—	
"							"	200	—	—	—	0 1/2	1	1	—	
"							"	210	—	—	—	0 1/2	1	1	—	
"							"	220	—	—	—	0 1/2	1	1	—	
"							"	230	—	—	—	0 1/2	1	1	—	
"							"	240	—	—	—	0 1/2	1	1	—	
"							"	250	—	—	—	0 1/2	1	1	—	
"							"	260	—	—	—	0 1/2	1	1	—	
"							"	270	—	—	—	0 1/2	1	1	—	
"							"	280	—	—	—	0 1/2	1	1	—	
"							"	290	—	—	—	0 1/2	1	1	—	
"							"	300	—	—	—	0 1/2	1	1	—	
"							"	310	—	—	—	0 1/2	1	1	—	
"							"	320	—	—	—	0 1/2	1	1	—	
"							"	330	—	—	—	0 1/2	1	1	—	
"							"	340	—	—	—	0 1/2	1	1	—	
"							"	350	—	—	—	0 1/2	1	1	—	
"							"	360	—	—	—	0 1/2	1	1	—	
"							"	370	—	—	—	0 1/2	1	1	—	
"							"	380	—	—	—	0 1/2	1	1	—	
"							"	390	—	—	—	0 1/2	1	1	—	
"							"	400	—	—	—	0 1/2	1	1	—	
"							"	410	—	—	—	0 1/2	1	1	—	
"							"	420	—	—	—	0 1/2	1	1	—	
"							"	430	—	—	—	0 1/2	1	1	—	
"							"	440	—	—	—	0 1/2	1	1	—	
"							"	450	—	—	—	0 1/2	1	1	—	
"							"	460	—	—	—	0 1/2	1	1	—	
"							"	470	—	—	—	0 1/2	1	1	—	
"							"	480	—	—	—	0 1/2	1	1	—	
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"							"	500	—	—	—	0 1/2	1	1	—	
"							"	510	—	—	—	0 1/2	1	1	—	
"							"	520	—	—	—	0 1/2	1	1	—	
"							"	530	—	—	—	0 1/2	1	1	—	
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"							"	550	—	—	—	0 1/2	1	1	—	
"							"	560	—	—	—	0 1/2	1	1	—	
"							"	570	—	—	—	0 1/2	1	1	—	
"							"	580	—	—	—	0 1/2	1	1	—	
"							"	590	—	—	—	0 1/2	1	1	—	
"							"	600	—	—	—	0 1/2	1	1	—	
"							"	610	—	—	—	0 1/2	1	1	—	
"							"	620	—	—	—	0 1/2	1	1	—	
"							"	630	—	—	—	0 1/2	1	1	—	
"							"	640	—	—	—	0 1/2	1	1	—	
"							"	650	—	—	—	0 1/2	1	1	—	
"							"	660	—	—	—	0 1/2	1	1	—	
"							"	670	—	—	—	0 1/2	1	1	—	
"							"	680	—	—	—	0 1/2	1	1	—	
"							"	690	—	—	—	0 1/2	1	1	—	
"							"	700	—	—	—	0 1/2	1	1	—	
"							"									

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Central African

Stock	Price	% Chg.	Div.	Yld.	Div.	Yld.
Anglo-Nil 25c.	250	—	05c.	18.9	—	—
Anglo-Nil 25c.	19	—	10c.	12.0	—	—
Anglo-Nil 25c.	22	—	—	—	—	—

Australians

ACM 20c.	12	+3	—	—	—	—
Anglo-Nil 25c.	33	—	—	—	—	—
Anglo-Nil 25c.	31	—	—	—	—	—
Anglo-Nil 25c.	61	—	010c.	23.10	—	—
Anglo-Nil 25c.	347	—	10c.	1.2	—	—
Anglo-Nil 25c.	34	—	—	—	—	—
Anglo-Nil 25c.	96	—	—	—	—	—
Anglo-Nil 25c.	30	—	—	—	—	—
Anglo-Nil 25c.	308	—	—	—	—	—
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NOTES

indicated, prices and net dividends are in pence and  
div. Yld. Estimated price/earnings ratios and interest are  
for reported dividends and accounts, and where possible, are  
for the current year. Dividends are in pence. Dividends  
are based on "maximum" distribution; this  
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125	Atlantic	108	Vickers	107
122	Carroll (P.J.)	100	Weymouth Ind.	107
120	Carr	98		
118	Cheney	95		
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104	Irish Paper	85	Can. Counties	77
100	Irish Paper	82	MEPC	77
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## SWITZERLAND

## FINANCIAL FUTURES

## Narrow trading ranges

price closed only 5 points lower at 15660 after opening at 15635, and touching a low of 15615.

Volume in the Eurodollar pit continued to improve but the March price fell to 101.1 point, down from the opening of 101.5 and 10 points down on the day at 91.05.

Market sources appeared reasonably satisfied with the June contract. It was the first time to hope for improvement in the June contract. Turnover was particularly encouraging in the London market, with the quiet cash market, which gave no strong lead to Life.

There was a steady, if not short-sterling futures, steady in spread trading was reported. Selling of March and buying of June reflected the higher level of the March contract compared with the present level of London interest rate. March was 98.50 points, 98.54, and June rose 10 points to 89.70.

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CURRENCY	VALUE OF DOLLAR
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Tota	0.808

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## FINANCIAL TIMES SURVEY

# Science Parks

The rush to set up science parks has led to exaggerated hopes that they can make a quick and vital contribution to the development of high technology in Britain. American experience suggests a more cautious approach is necessary

By Anthony Moreton  
Regional Affairs Editor

THERE IS a tendency to believe that science parks are the answer to all Britain's problems. The uncommitted observer might be forgiven for thinking, such is the interest in the subject, that attracting high-technology concerns to suburban settings will transform the economy.

In the past two or three years there has been a rash of announcements about the inauguration of such parks. Universities such as Warwick, Keele, Surrey, Swansea and Southampton are following in the footsteps of Heriot-Watt in Edinburgh and Trinity College, Cambridge.

The Scottish Development Agency has talked about having five or six in Scotland and the Mid-Wales Development Board is looking at the possibility of one in Aberystwyth.

### Local authorities and new towns

Local authorities, new towns and urban development corporations such as the Wirral, Warrington and London Docklands, which lack direct ties with universities, are claiming how near they are to these institutions for their schemes. Private developers are becoming less interested in industrial estates. Science parks are the thing.

The country is rushing, helter-skelter, into a new technological world of laser beams, electron beams, computer hardware and software, microfilms, fibre optic technology and diagnostic reagents.

There are even parts of Britain which proudly, if in-

accurately, proclaim themselves as the British Silicon Valley. The West of Scotland got very annoyed when Glenrothes and Fife generally adopted the name and the M4 axis towns looked on with amusement.

A bubble which has not been blown up can hardly be said to have burst but there is a grave danger that too high expectations are being put on science parks.

Experience in America, where the parks started 30 years ago, should be a salutary guide. There has been a high failure rate and the benefits take a long time to materialise. Many small high-technology firms have remained small high-technology firms.

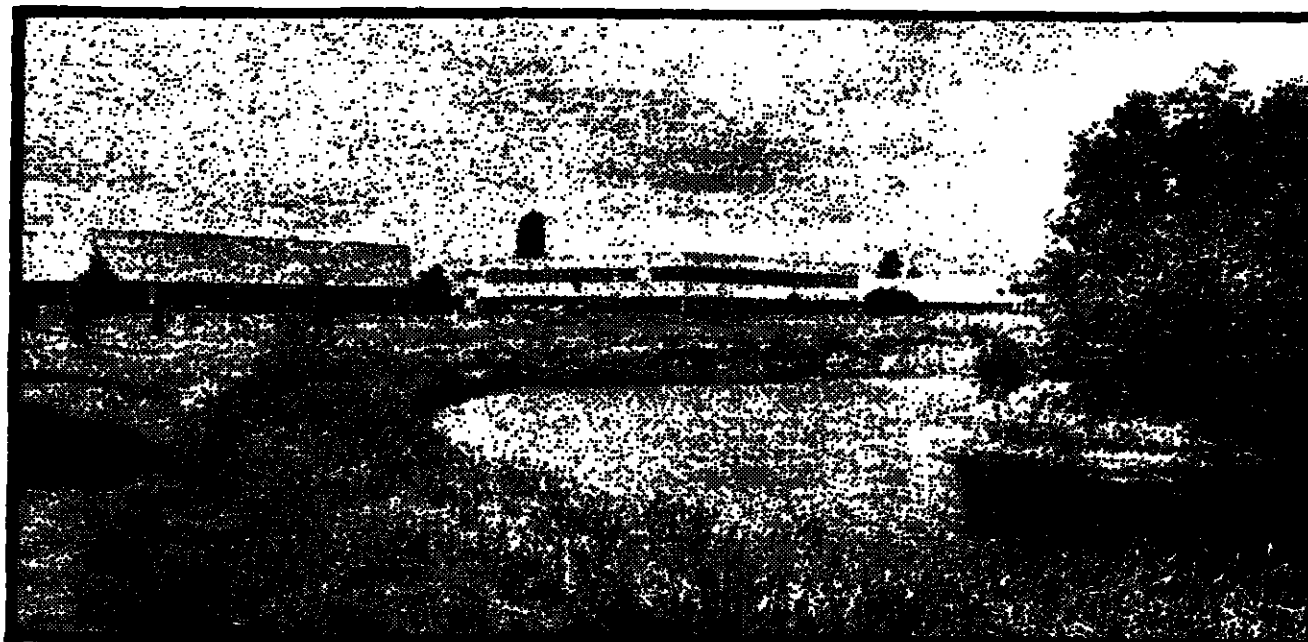
One of the problems discovered in America is that small companies, led by brilliantly innovative graduates, are not always the best at marketing their products. For every Hewlett Packard there are countless others which have sunk.

Despite these reservations the experience of those British parks which have been in existence for a few years is sufficiently encouraging to merit further development.

The Cambridge Science Park on the outskirts of the city, set up in 1970 and officially opened in 1975, now houses 25 companies and provides work for 750 people. The number should be up to 1,000 by the end of the year and the park is aiming for around 2,000.

If the local authority planners had been more receptive to the whole idea a decade ago it would have housed the European research centre for IBM, a large employer.

The Heriot-Watt Research Park at Riccarton outside Edinburgh has also got off to a good start. It allows only scientific and technological research and eschews mass production. It claims to be the only research park on a campus.



CAMBRIDGE SCIENCE PARK

### ON OTHER PAGES

Silicon Valley and Stanford	II	Bristol's Aztec West	IV	Southampton University's plans	V
Warrington—image transformed	II	Cambridge Science Park	IV	Criteria of success	VI
Numbers increase in Britain	II	Merseyside innovation centre	IV	Warwick University's scheme	VI
Handful of private schemes	III	Scotland led by Heriot-Watt	V	Science parks around Britain	VI
Institutional investors' view	III	Freeman Eascom profile	V	Editorial production: Joe Hutton, Design: Phil Hunt	

site, in Europe.

Science parks in Britain appear to have originated not so much as a response to the American model as to the desire of the then Mr Harold Wilson to translate his "white-hot technology" speech, made while Opposition leader in the early 1960s, into practical politics when he became Prime Minister in 1964.

In the second half of the 1960s the Government wrote to all universities suggesting they do more about innovative technology and it was from that initiative that the first steps were taken in Britain at Heriot-Watt and Trinity College in Cambridge.

The different titles, and slightly different approaches, of these two parks lead to an important question of definition. What is a science park?

A pure science park would be one set up within the confines of the university's grounds, where the companies

on the park dealt only in pure research and where there was close involvement on the part of the university and a direct interface between academic staff and the companies involved on the park.

It is probable that no such institution exists in the world to meet these criteria, though one or two in America, such as the Research Triangle Park, associated with the three universities of North Carolina, and the University of Georgia

Research Park at Athens, Georgia, come nearest to it.

Heriot-Watt is called a research park, merely a synonym for science park. But there are other names. A technology park would be an area where there was a high proportion of applied research, perhaps involving a university; a business park could have a proportion of commercial activities; and an industrial park is often just another name for an industrial or trading estate.

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In practice, the tide hardly matters. What is of greater concern is the link with the university or other academic institution and the physical layout.

If a science park is anxious to attract high-technology concerns then it has to lay out the estate in such a way that working and environmental conditions are maximised. Each park sets its own standards but at Cambridge only 20 to 25 per cent of the space is given over to buildings. The rest is services and landscaped surroundings.

Of more importance is the interaction between university and production unit. Dr John Bradfield, senior bursar of Trinity College, says that "a science park should allow for the interchange of ideas between firm and university. If a scientist or technologist comes up against a problem then he should be able to turn to someone in the university for help."

Many of the companies on science parks are operating at the frontiers of technology and identifying what is happening is frequently a very complex thing. This is where we can help.

Sadly, there is too little of this meeting of minds. Much of British industry tends to have an anti-academic bias and within the universities there is too often a feeling of not wanting to get hands dirty with industry.

Fortunately, there have been enormous changes for the better over the last 20 years. There have been huge changes in attitudes within the universities and almost everyone is willing, indeed anxious, to help.

"But I wish that more British concerns would see us in the universities as listening posts for them."

U.S. experience, according to Mr Nick Segal of Job Creation, is that the most common type of science park is essentially a high-quality property develop-

ment in a strategically excellent business location.

The tenants would then largely comprise mobile R & D and high-technology projects of major companies, university research institutions and small but fast-growing advanced technology manufacturing companies.

That this is what has happened in the U.S. is beyond doubt, despite the failures there. California alone has 15 such parks, Colorado five, Maryland six, Massachusetts seven. Some have become very large, the Research Triangle Park in North Carolina probably having over 10,000 working on it.

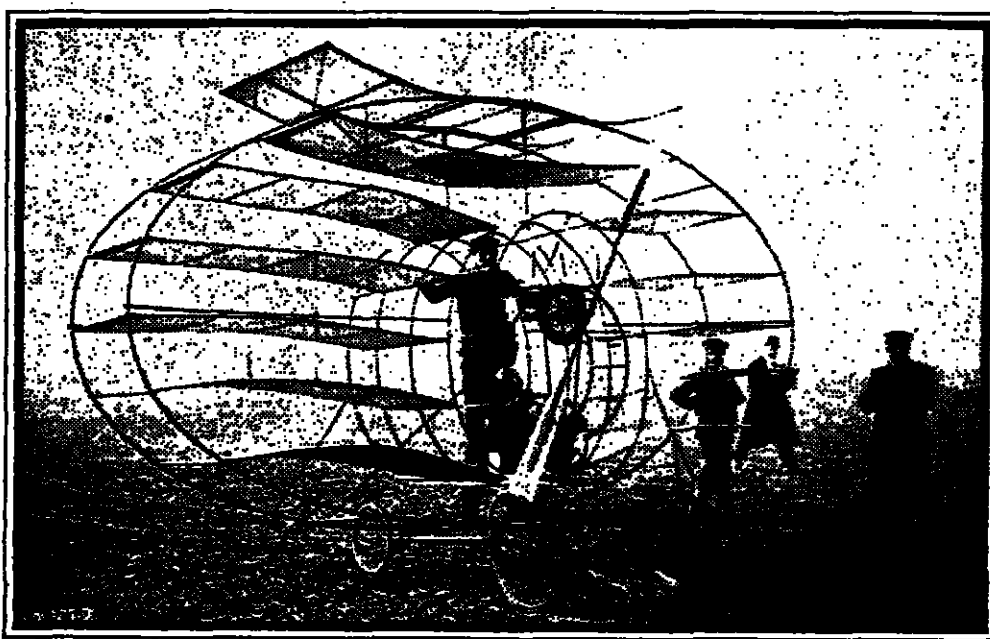
### American experience and its message

American experience on the whole, though, suggests that it is a long time before numbers rise into four figures and so it would be wrong to expect British parks to be offering an immediate or even medium-term solution to the country's employment problems.

Science parks are necessary, according to Dr Bradfield, so that Britain "shall not slip into the peasant economy category." The sheer amount of effort being put into high-technology work elsewhere is staggering. The Japanese have just produced a programme in conjunction with 45 universities.

"The Americans have a \$2bn programme linking almost every university and important technology-based company."

"We in Britain are, tragically, failing to capitalise on our research. Fortunately, there are signs of change. The penny is beginning to drop. We have shown at Cambridge what can be done on a well-run science park and if we can do it others in Britain ought to be able to achieve comparable results."



## How many good ideas don't get off the ground in time?

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Louise Kehoe in California writes from the home of the world's first and now biggest park

## Silicon Valley grew out of Stanford campus

"IF WESTERN industry and Western industrialists are to serve their own enlightened and long-range interests effectively, they must co-operate with Western universities and wherever possible, strengthen them by financial and other assistance."

Co-operation between universities and industry, as called for in this statement by the late Professor Frederick E. Terman in 1947, provided the seeds for what has become the world's largest and most famous "science park."

Northern California's Silicon Valley began on the campus of Stanford University over 30 years ago. Prof. Terman, who died in December last, held the official title of Emeritus Provost of Stanford University. He is more widely known as the Father of Silicon Valley.

At Stanford Industrial Park on university-owned land close to a hundred high-technology companies now occupy buildings on land adjacent to the university's central campus. They form the anchor for a larger group of close to 1,000 electronics companies located in what is called Silicon Valley — the region extending about ten miles south of Stanford along the San Francisco peninsula.

"Universities are more than a place for learning," Terman said in the 1950s. "They are major economic influences in the nation's industrial life, affecting the location of industry, population growth and the character of communities. Universities are a natural resource."

To prove the point Prof. Terman encouraged faculty members to get acquainted with their counterparts in industry and to co-operate with industry without jeopardising the integrity of the university. Industry engineers were welcomed into Stanford's classrooms. A closed-circuit television system by which lectures were transmitted to corporate offices close to Stanford was established and flourishes today.

Prof. Terman also took a direct hand in encouraging local industry. "I helped five or six of my students establish companies of their own. I assisted

with encouragement, advice and ideas." One such student was Bill Hewlett. Hewlett enticed David Packard, another former Stanford student to join him and work for \$55 a month in Packard's garage, building audio oscillators — devices that generate signals of varying frequencies.

Hewlett-Packard is today a multi-billion dollar, world-wide corporation but its headquarters remain in Menlo Park, California, on Stanford University land.

"A special kind of technological ferment exists here. The closeness of other electronics firms and some very fine universities have produced a business climate where innovation flourishes," Hewlett-Packard's president, Mr. John Young, commented recently.

## Beneficial

From the beginning Silicon Valley was different. Not only was it based on the new technology of electronics, it also represented the beginnings of a new attitude towards the mutually beneficial co-operation of industry and academia.

Reflecting on the growth of Silicon Valley, Prof. Terman said a few years before his death that "in these modern communities of technical scholars there is a continuous ferment which makes them intellectually stimulating for people having the qualities that are the basis for growth industries."

Today the ability of Silicon Valley to go on producing a stream of successful high-tech ventures is a source of fascination worldwide. Prof. Terman had a ready explanation. "In such a community the innovative sources existing in industry are contagious — to a creative mind a new idea coming from outside is likely to make impact in ways that lead us to additional ideas, which stimulates more ideas and mounts new challenges. As long as we maintain the practices that have made us what we are today, there is no limit to the longevity of this situation."

New companies found it more important to locate near a centre for brains than raw

materials, transportation, factory labour or even markets — so Silicon Valley began.

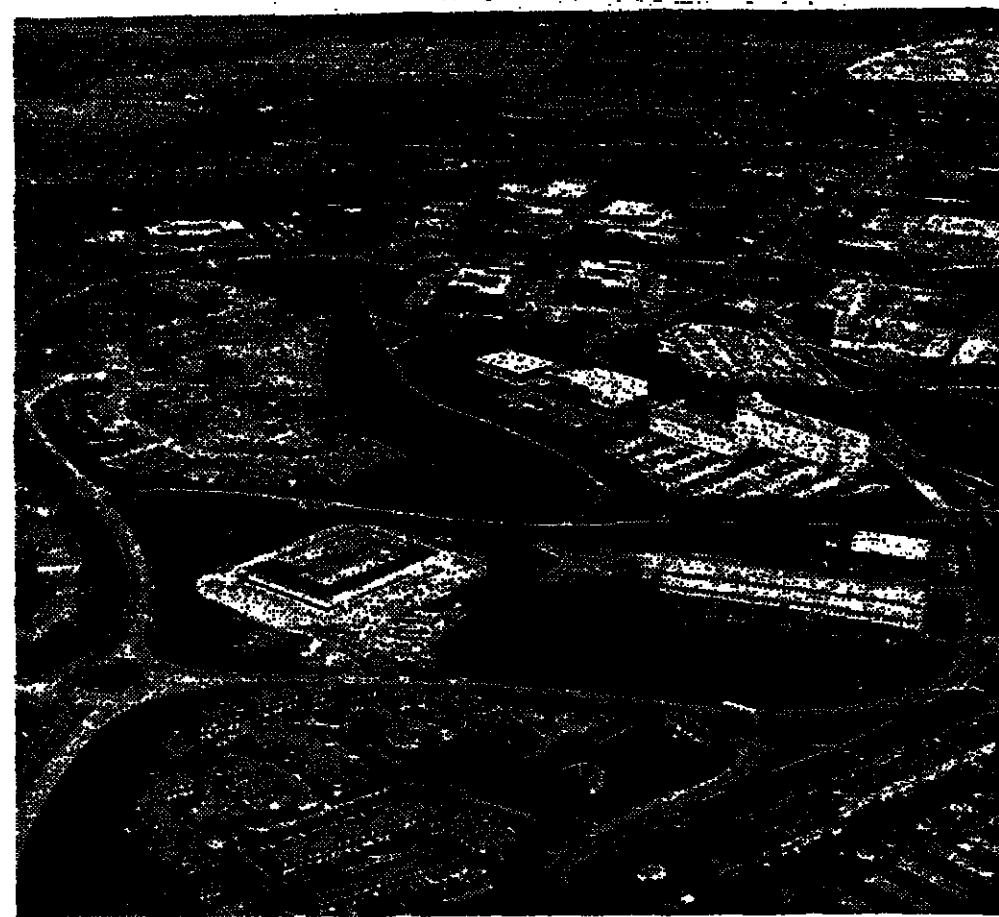
As the homeland of the semiconductor chip industry, Silicon Valley enjoyed extraordinary growth in the 1970s. Towards the end of that decade, however, growth caught up with Silicon Valley. The cost of living within commuter distance of the "valley" became disproportionately higher than in other parts of the country.

Around that time, too, companies that had grown up in Silicon Valley began to recognise that it was much cheaper to expand their production outside the San Francisco Bay area. Equally important, it became evident that the limited supply of talented young engineers was no longer lured by the "climate that God and not the electronics industry gave us" as Prof. Terman had described it, but preferred to live elsewhere, where they could afford to buy a home.

As the biggest, and the original science park, Silicon Valley faces challenges today from a growing number of centres of technology industry both in the U.S. and abroad. It has provided the model on which many have sought to build a centre of technological enterprise and profit.

Although Silicon Valley remains a major centre for new high-technology ventures, it must now compete with other growing technology centres in other parts of the U.S. including Texas, Arizona and New Mexico. These and other states are putting considerable effort into attracting high technology industry — along with the jobs it supports. Either by establishing new research institutes or by allying themselves with established universities, state and regional governments are seeking to attract high-tech industry.

Close proximity to a recognised academic institution is now considered to be a critical factor among electronics companies looking for a site for a new plant. As Prof. Terman put it, "being near a centre for brains is more important than raw materials, transportation, factory labour or even markets."



Warrington New Town's Birchwood Science Park. Heavily funded and promoted as a commercial venture, it is already the home of a sizeable number of high technology companies plus leading elements of the nuclear industry

Nick Garnett on the Warrington success story

## Town image transformed

THE BIRCHWOOD Science Park was conceived by Warrington Development Corporation in the early 1970s as a high technology and science-based centre on the model of U.S. parks. Its success has transformed the image of Warrington and the surrounding area of Cheshire.

Along with the Cambridge Science Park and Heriot-Watt Research Park it was one of the first in Britain. Unlike those two, however, it has been a purely commercial development, unconnected to any particular academic institution.

Initial research in California and in and around Boston, Mass., resulted in parks of exceptionally high environmental quality which, since its inception, Warrington has notched up considerable successes intermingled with a few disappointments.

Birchwood provided 55 acres of developable land on a total of 70 acres with 15 acres used for landscaping. There is really only one three-acre site left for new building so the Development Corporation is busy putting the final infrastructure touches to the nearby 30-acre Science Boulevard site.

Birchwood has attracted 32 companies — 17 from abroad and all but one of those with headquarters in North America. Some of the best known names include Digital Equipment Company, Data General, GEC and Bend Sin (GORE). New and existing companies that have moved into Birchwood have closed or moved out.

The Development Corporation would have liked to attract some large-scale manufacturing

operation to the site. This it has not managed to do and much of the site is taken up by headquarters buildings, administration, sales and marketing functions, design operations and staff housing.

The present lack of any form of development, however, is certainly a handicap to attracting manufacturing, though there is a considerable amount of light assembly work at Birchwood.

The high technology base at the park has been provided by the nuclear industry. British Nuclear Fuels is expanding from nearby Risley into 320,000 sq ft of space at Birchwood for its new engineering design headquarters and will employ perhaps up to 2,000 out of the 5,000 total employment. The Development Corporation is aiming for on the site. The science park probably employs around 1,500 at the moment. The northern headquarters of the UK Atomic Energy Authority is also based at Birchwood.

## Changing

One disappointment however is that there have not been as many companies springing up on the back of the nuclear industry as planners hoped, however.

Genesis is a two-storey building complex providing high-quality office and domestic accommodation for around 20 companies. A phase-two development at Genesis will provide around 65,000 sq ft of space aimed primarily at start-up businesses.

A relatively new development is the letting off by a private company of what are in effect "work stations." One of these deal areas has been taken up by Business Environment, created by two former

members of the Development Corporation who worked closely with the establishment and setting of the science park. This company which specialises in industrial location advice, recently completed a study for the South Australian Government on a technology park in Adelaide.

Stanford and Spencer Houses each provide around 55,000 sq ft of high-grade office accommodation. The spread of accommodation on offer is very broad from a Development Corporation which not only puts up speculative buildings for letting but designs and erects purpose-built accommodation as well as allowing private development.

The smallest units on the site go down to 400 sq ft. For offices, the rent at Genesis is around £5 per sq ft and at Stanford £4.75 to £5. Typical land purchase rates for 125 to 150 year leases is around £70,000 per acre.

Birchwood, an environmental award winner, is served by a comprehensive range of facilities at the Development Corporation for assisting companies to locate and expand at the science park.

There is a first-class motorway network on hand. Manchester International Airport is only a short distance away and the North West is the home of some of the country's principal technical higher educational institutions.

The Corporation has a U.S. agent in New Jersey assisting in "selling" the science park, which partly accounts for the relatively large number of U.S.-owned companies at Warrington. The Corporation has also been running a very heavy advertising and promotional campaign, particularly on television.

Anthony Moreton reviews progress in Britain

## Numbers on the increase as enthusiasm grows

IT IS a pertinent reflection on how long it takes to get almost any significant project off the ground in Britain to realise that while there has been a clutch of science parks unveiled since 1980 the whole idea was set in motion some 15 years ago.

British science parks were not created in response to a concept that first saw the light of day at Stanford in California in 1951. They came about as a consequence of the desire by the then Mr. Harold Wilson, Prime Minister after the 1964 election, to forge a white-hot technological revolution.

Mr. Wilson had made the desire to create a technologically advanced Britain a centrepiece of his election programme that year and when he moved into Downing Street as Prime Minister he followed with a letter to all universities.

But that was not immediately. The demands of the economy, the serious run on sterling and the eventual devaluation occupied most of his Government's time in the early months and it was not until after the election of 1966, when Mr. Wilson won an overwhelming majority, that his Government took the initiative on science parks.

Whether he or his Ministers or their advisers knew about the American experiment which was by then getting under way — there were reputed to be 62 science parks in operation there by the early 1970s — is unknown.

What is known is that by the early part of the second half of the 1960s, somewhere around 1966 or 1967, the Government was writing to all universities in Britain suggesting they do something to encourage the growth of high-technology companies.

That initiative was quickly seized both at Cambridge and at Heriot-Watt in Edinburgh. At Cambridge a committee was set up with Sir Nevill Mott, the Cavendish Professor of Experimental Physics, as chairman and Dr. Ian Nicol as secretary. Late in 1969 it recommended a moderate increase in science-based industry close to the city.

It could not be provided within the city because of the lack of land available — to take maximum advantage of the concentration of scientific expertise, equipment and libraries within the university.

The Council of the Senate expressed general agreement with the report and Trinity College, with its large legacy of scientific equipment, quickly seized the opportunity to promote the scheme.

Apart from Edinburgh, progress elsewhere was slow. Brunel, on the western outskirts of London, had had ideas for a science park as far back as 1960 but nothing very much happened until more recently.

It has been in the past two to three years that a sort of tidal wave of enthusiasm has emerged for these parks. The British Development Agency is talking about creating five north

of the border; in 1981 two were announced on the same day; last year some 15 were announced. Universities from Keele in the north, through Warwick to Southampton, not forgetting Swansea in Wales, have unveiled plans or are on the verge of doing so. Local authorities like the Wirral, Berkshire and the Greater London Council have joined in. Private organisations such as Aztec West, which has a project in Bristol are active, though some of these do not strictly qualify as science parks.

## Committed

The biggest, best promoted and most heavily funded park belongs to a new town. Warrington's Birchwood Science Park is fully committed and the authority is now looking for tenants for its Boulevard Science Park. It has plans for a third park, though there are doubts whether these would meet the strictest interpretation of the definition of a science park. But, then, what is a science park? Who has defined the concept anyway?

What is indisputable is that Britain has now a small number of areas which are, whatever their name, given over to the pursuit of high technology industries. Before long it will have a lot more. Given the need to encourage the development of such industry this can only be a good thing and must please the now Sir Harold Wilson.

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## SCIENCE PARKS III

Rhys David takes note of the relatively slow response of the private sector

# Only a handful of private schemes

TURNOVER in computer related products over the next decade could on some estimates rise worldwide from an already massive \$500m per year to more than \$150bn, creating with it an equally large demand for high-class factory accommodation.

Britain's universities and local authorities—both with an eye on the job and revenue potential that developments on this scale would bring—have responded with plans for no fewer than 30 science or high-technology parks. The marketing claim for all of them is much the same: the provision of conditions in which established large or medium-sized electronics and other sophisticated businesses can develop their activities in the UK, or in which the small business, which could be tomorrow's IBM, can flourish and grow.



Mr Nicholas Owen, senior partner of Herring, Son & Daw, chartered surveyors. His report last year discussed the property needs of modern industry.

Not all the parks being developed in this way will have the right combination of facilities and location to succeed. Equally, a mainly public sector response to the challenge of providing the accommodation which modern electronics-based industries will require is unlikely on its own to be nearly enough.

For a variety of reasons, however, the private sector has been relatively slow to move into the provision of facilities for high-technology industries. Only a handful of private sector schemes have emerged, reflecting in part the caution which is also being shown by institutions such as pension funds in providing support.

### Rewarding

The problem is the commercial one that it is usually much more rewarding, and its planning terms often much simpler, for the developer to put land to warehousing or light industrial use rather than to develop it for high technology purposes.

First the economics. Land costs in the UK compared with the U.S. where the science park concept was pioneered, are relatively high, particularly in the environs of the big cities where high-technology developments will need to be sited if they are to work closely with academic institutions and take advantage of facilities such as airports.

At the same time, to create the

type of environment which is likely to prove attractive to electronics, biotechnology and similar concerns, building density has to be low—possibly as little as 30 per cent compared with perhaps 50 per cent in a warehousing scheme.

"If a developer acquires land it is usually expensive and he will almost always come under pressure to let it off to the first occupier who comes along. What developer is going to see his site eating its head off in interest charges and turn away a prestigious warehouse development?" Fred Roche, managing director of consultants Connan Roche, asked at a recent Town and Country Planning Association seminar on science parks.

Private sector science park developments also have to surmount sometimes severe planning obstacles, particularly in the South East of England—the area where such schemes are most likely to reach viability.

High-technology companies will generally be looking for a degree of flexibility between office, research and development and manufacturing space but the way many local authorities

apply planning controls can make this difficult to achieve. Another disincentive is provided by the existing capital allowances structure which has yet to reflect adequately the increasingly blurred lines which now exist between manufacturing and office operations. Building allowances are only available for office space provided it represents no more than 10 per cent of total costs.

The result of these constraints has been to confirm the institutions in their policy of backing relatively safe developments in light industry and warehousing based on standard factory units. These have the advantage of easy comparability of rent levels with similar property in the same area, ability to re-let should a vacancy occur and—compared with a science park development—relatively undemanding management requirements.

"In an area of scarce land like Southern England, the developer opts to build, let and sell traditional standard institutional buildings—town centre office blocks and warehouses, or smaller standard industrial units. An industrialist hoping to build his own specialist factory must, therefore, look outside the main areas of good demand in the South East or seek to purchase direct from

a public authority whose objectives are not only to get the highest land value but to attract industrial employment." Nick Owen of chartered surveyors, Herring, Son & Daw, observed in a report last year on the property needs of modern industry.

Yet while the private sector is showing caution a number of developments are now going ahead, suggesting a change in attitudes may be taking place. At the same time the Government is being bombarded with a variety of suggestions as to ways in which the difficulties suffered by private sector developers of high-technology property can be eased.

### Wide spectrum

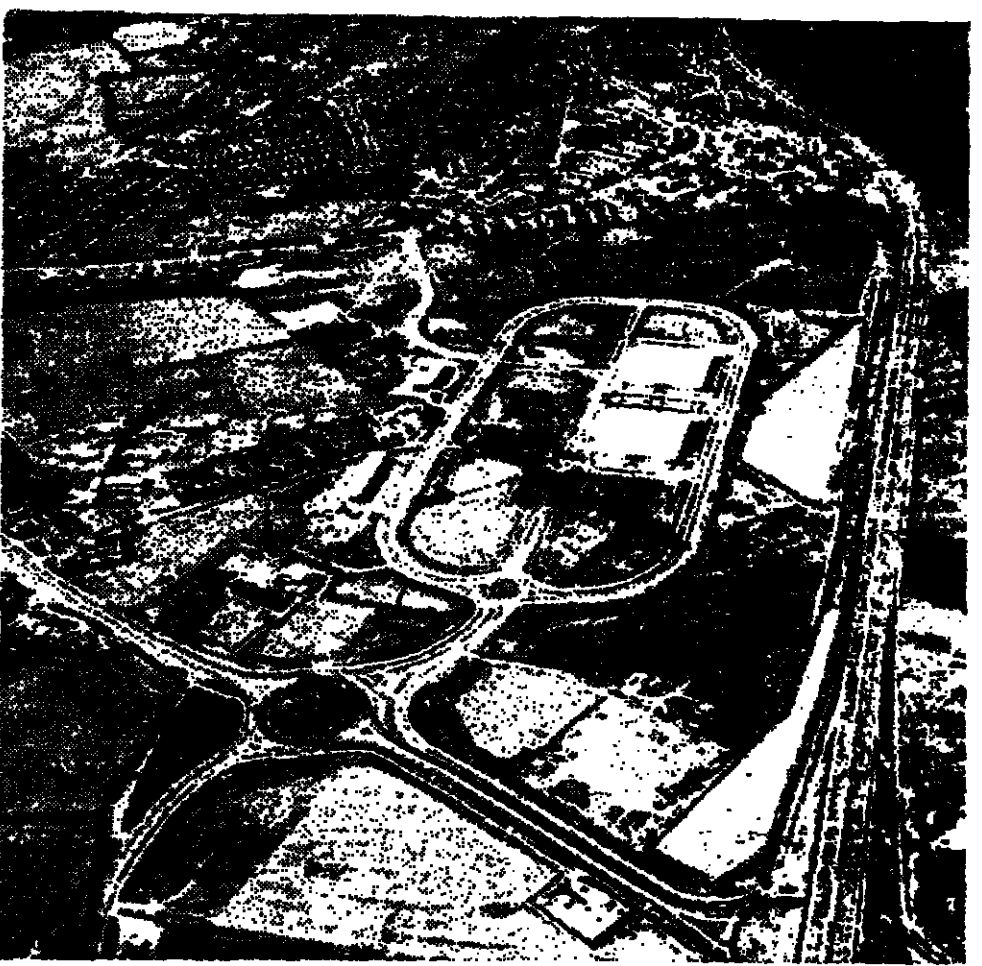
At Aztec West near Bristol a developer, Electricity Supply Nominees, willing to take the long view and—working closely with the local planning authorities—has been able to create an estate to a very high environmental standard and open to a relatively wide spectrum of users prepared to pay somewhat extra for better facilities.

In Swindon the Kuwaiti-owned St Martin's Property Corporation is also planning to spend up to £100m on its Windmill Hill scheme which, while

not specifically billed as a high technology park, is likely to incorporate high environmental standards and attract electronic companies. The Carrol Group also has prestige industrial accommodation planned for sites in the south of England.

Other developers seem certain to follow once the evidence of demand for more sophisticated forms of industrial and office accommodation to suit the needs of electronics concerns becomes established. In many cases the mechanism is likely to be local authority-developer partnerships with the local authority or other public body making available land acquired at low historical cost with certain conditions attached as to the type of development to be allowed.

Changes in planning legislation, including a new class of planning use specifically tailored to high-technology parks are also thought necessary by some property specialists, though there is some argument over whether local authorities could already use their powers more flexibly than they presently choose to do. The case is also being argued for a new funding vehicle to which the institutions could contribute and which would enable them to spread their risk.



Bristol's Aztec West, a major development aiming to attract companies which place a high priority on, among other things, a high quality environment. (See article on Page IV)

# SPACE FOR HIGH TECHNOLOGY TO GROW....

Tim Dickson explains why institutional investors are tending to hold off

## Matching ventures to commercial criteria

FOR ALL the talk about science parks as the breeding ground for the companies of tomorrow, UK financial institutions have so far shown themselves extremely wary of backing new projects with hard cash. Commercial banks, which have hitherto barely hidden their scorn for the "cautious" and "hidebound" fund managers who continue to pour millions of pounds into traditional industrial property, are now beginning to look at their future pensions and with-profits insurance contracts generally counter that the concept has not yet been fully tested and that the risks are too high.

So far there has been a limited amount of investment in "high tech" industrial units but interest in what some would term "pure" university-based parks is almost negligible. Barclays Bank is a notable exception, having provided £1m for the first building of the Warwick University science park.

The explanation for institutional investors' reticence lies in the customised nature of units and fear that they would not be relettable in the event of tenant failure. Fund managers also feel that buildings could become technologically obsolescent well before their physical life has run its course, while the absence of track records and involvement in properties with mixed office, industrial and warehousing accommodation are among the other hang-ups.

### Advantages

John Parry, managing director of Commercial Union Properties, the property arm of the CU, represents an institution that has taken considerable interest in science parks but which as yet has not committed any cash. "The advantages are clear," he says. "You are dealing with a high standard of building, located in a nicely landscaped environment close to a centre of academic excellence. The UK moreover has got to be positive about developing its science based industries."

The problem, says Parry, is extending institutional investment criteria to accommodate the science park concept. "It is a new idea and still very early days. I can't see one fund going

in on its own to do a whole park, though there should be scope for a mix of funds.

"It is all very well for people to criticise the institutions for being slow to participate but there are problems in our way. Planners need to take a more flexible attitude, as do some of the universities, which are adopting a somewhat stereotyped view of what they want."

### Commitment

Commercial Union is talking seriously to one academic institution about the possibility of helping develop a 10-acre site. Its commitment could amount to about £2m if the deal goes through.

Michael Mallinson, joint chief surveyor of the Prudential, is another defender of institutional attitudes, pointing out that efforts are being made to find acceptable ways to finance the new generation of developments. The Pru is currently set to back what is termed a "technopark" on a derelict two-acre site at the Elephant and Castle in South London—a project, Mallinson explains, which does not really reflect the science park concept. The centre is designed to act as an incubator unit for small high-technology businesses near the Polytechnic—but tenants will have to move on to other locations once they have found their feet.

This scheme is subject to a public inquiry next month following a late change of mind on the site by Southwark Council but the Prudential which is proposing to inject £4.5m is hopeful consent will eventually be obtained.

"I really doubt whether there is anywhere in Britain at the moment which you can call a science park as they would understand the term in the U.S. The scale over there is totally different where they have vast tracts of land. Given the relatively small size of Britain I wonder whether there is really a need for science parks."

Others may not go quite that far in comment but they are certainly sceptical of the benefits. To overcome this the Multinational Management Group, an American venture capital organisation, has been developing the idea of a consortium to spread the risk.

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## SCIENCE PARKS IV

Rhys David reports on a large commercial development which aims at rather more than the standard science park set-up

## Bristol's Aztec West plans to furnish top environment

"AZTEC WEST" is open to a lot of interpretations: Mexican Indians in shoeing country, gold waiting to be discovered in Bristol's outskirts, or more prosaically the A-Z of technology. The name was selected because it could mean all sorts of things without meaning anything in particular, and because it could offer strong graphic possibilities. And the measure of its success is that it has managed to place the Electricity Supply Nominees (ESN) scheme, off the M5 and A38 in the county of Avon, firmly on the property development map.

In keeping with the name, the 170-acre scheme itself is somewhat unusual. It is not just another science or high-technology park similar to the many others now springing up throughout the UK. Through the firm companies to move in are in computer-related businesses, it is designed to cater for any company which places a high priority on a top quality environment.

It is also unusual in that the plan incorporates—thanks to the liberal approach adopted by the local council—a very high office content of some 300,000 square feet. Some 30,000 square feet of office space has already been taken by the U.S. concern Digital Equipment.

ESN's starting point was a desire to increase its small stake in industrial property, but to do so with a scheme that would stand the test of the next decade in terms of facilities.

"Industries, particularly those associated with future growth such as high technology, change very rapidly and their property requirements also change. Therefore we have to design industrial buildings which will be available and acceptable to today's market, as well as flexible enough to be adaptable to the needs of industrialists in say 35-40 years."

Christopher Whyman, ESN's chief surveyor, points out.

The approach adopted, therefore, has been to offer units—initially 8,000 sq. ft. to 80,000 sq. ft., but with smaller

premises down to 900 sq. ft. in the next phase—which provide highly flexible lay-outs which can be switched between types of use as companies grow. At the same time these are being encompassed in an environment substantially superior to that of the conventional industrial estate and capable also of attracting office employers. This in itself simply reflects, according to ESN, one of the changes taking place in industry as a result of the electronic revolution—a blurring of the frontiers between manufacturing and office processes.

## Objectives

The way in which the objectives set for Aztec will be achieved is through a much more comprehensive system of estate management than has hitherto been practised in Britain. "The size and scale of Aztec West means that estate management has to be handled with care in order to protect and enhance the quality of the

environment," comments Peter Redhead of Richard Ellis, the estate's managers and joint letting agents. The estate management will look after, as part of the services it provides, not just the common areas such as roads and pavements but semi-private areas such as tenants' forecourts and car parks. Tenants, as a result, are left to concentrate all their attention on what happens inside their buildings. Common security services are also being built into the site. A ring main circles the estate, to which tenants can attach their burglar and fire alarms, computer room temperature monitoring equipment. Closed circuit television will also scan the site, reporting to the centralised security room, and tenants can arrange for parts or other services to come under surveillance. Other amenities being built in to cater for a working population estimated as ultimately likely to be between 5,000 and

10,000 include a "village centre" with bank, post office, small supermarket, restaurant, taxi and bus service, travel and forwarding agents, dentist, and medical centre. Landscaping will also be of a high standard: a country lane running through the site is being preserved as a service road and there are lakes to which it is hoped wildfowl can be attracted, fountains, a running track, and other leisure amenities. Other services will be added in line with demand and could include a maintenance team for carrying out tenants' small building and repair jobs, cleaning services, central canteen facilities, common secretarial help and office equipment rental. Economies of scale will keep down the cost of these services, which will be available more cheaply than if tenants bought them separately, Peter Redhead argues. The estate will, for example, have enough landscaping work to justify employ-

ing its own specialist team. "The size of Aztec West provides for economies of scale which allow us to offer above-average site management and maintenance services without the tenant having to pay above-average service charges. Tenants are in business to run their operations successfully and not to worry about cutting the grass or keeping the place secure from intruders, Christopher Whyman observes. "Slower rate The novelty of this approach and the slightly higher rentals which are being charged—£2.75 per sq. ft. as against £2.50 for light industrial accommodation elsewhere in the Bristol area—has had to be paid for by the slower rate of lettings than had been hoped for. Marketing started before the development began and lettings have been taking place from April this year. So far, however, only three tenants have

moved in—Venson, a French computer group, Digital Equipment of the U.S. and GEAC, a Canadian electronics group. Another two companies are close to taking shape, Richard Ellis says, and negotiations are in progress with a further 20 potential clients. According to Guy Burton-Smith of Richard Ellis, many companies looking at the estate over recent months have indicated they will be back when the market begins to pick up. He remains confident of rapid growth by the time of the first rent review after five years. "Aztec will still be modern long after then," he observes. To preserve the quality of the estate, too, he points out, the developers have been prepared to turn away tenants who plainly would not fit in with the image being projected, including for example cash-and-carry operators. Warehousing concerns as such are not excluded, providing they come to Aztec West because they have identified a high quality en-

vironment as one of their requirements. Development of the estate is costing some £10m in the first phase and could ultimately cost £50m, spread over perhaps five to eight years. ESN has indicated that it intends to hold on to the estate as a permanent investment rather than sell it off, though it is hoping it can attract other institutions to take a share in the development. The pace at which the estate fills up and the type of tenants it attracts is likely to depend on the speed with which the recession comes to an end and on the competitive position of Britain over the next few years in the battle to win high technology investment. Location is seen by ESN and Richard Ellis as one of Aztec West's main assets, giving it a better chance of taking off than many other developments. "It is a part of the world where it is hoped to be, and hence where it will be much easier for modern industry to recruit the staff it wants," they say.

Anthony Moreton traces the success elements in Cambridge Science Park

## Steady growth rewards pioneering effort

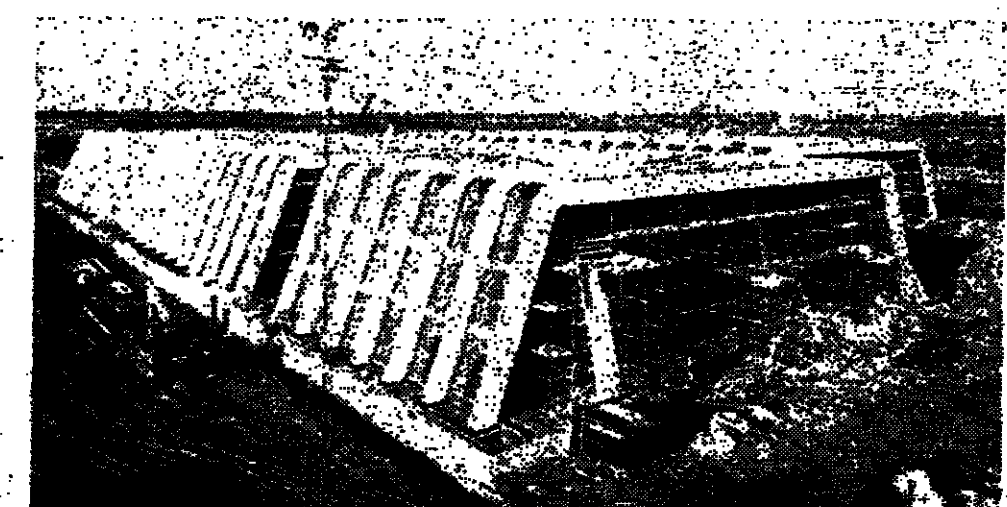
JUST AT the point where the A-10 to the cathedral city of Ely runs out of Cambridge is to be found the oldest science park in England. "Oldest" is a relative term. The Cambridge Science Park was set up just 12 years ago, in 1970, and opened in 1975 on a 110-acre site that had belonged to Trinity College since the Middle Ages.

The park is sometimes known, popularly, as Trinity science park, a phrase which brings no little pleasure to the city's largest college, since it was its initiative in responding to university report which enabled it to create such a park ahead of other colleges.

The Cambridge Science Park also shares the distinction of being one of the two oldest in Britain, the other vying for that distinction being Heriot-Watt in Edinburgh. "There is no clear evidence which was the first," according to John Bradfield, senior bursar of Trinity, who with Mr. John Tweddle of Bidwells, a firm of chartered surveyors in the city, runs the park.

## Outstripped

"So we just say that Heriot-Watt was the first in Scotland and we were the first in England and we were both the first in the UK." While never eventually going to be awarded that accolade from historians, the Cambridge park has outstripped all others in development. It now houses 25 concerns, 24 of them in production, and is negotiating with another three, all of which are



Construction on modernistic lines for Napp Laboratories, a major tenant occupying phase two of development in its entirety

expected to be on site or having a building erected by the end of this year. The first 25 have filled phase one of the development, which covers some 28 acres; phase two, another 28 acres, has been taken in its entirety by Napp Laboratories, a producer of ethical pharmaceuticals specialising in slow-release drugs, owned by two American psychiatrists, whose building must be a prime candidate for any future architectural award; and the three newcomers will go to phase three, another 26 acres. The remaining space is parkland. The park has already led to

the creation of some 750 jobs in the city and when Napp opens the total will be nearer 1,000. When the park is completely occupied it has been estimated that some 2,000 will be employed on site—though, as Dr Bradfield says, "pure numbers was never the sole aim. We wanted to establish a science-based centre in Cambridge."

It is perhaps appropriate that Trinity should have been the first to see the advantages of the concept of a science park. It has over the centuries been the home among others of Isaac Newton, Sir George Clerk, the astronomer, James Clerk-

Maxwell, who predicted electric waves, Sir J. J. Thomson, the physicist who established the existence of the electron and was also Master for 22 years between 1918 and 1940, Lord Rutherford, the physicist who first split the atomic nucleus, and Lord Adrian, another Master (1951-65). The firms and the men and women who comprise the park may not yet rank with such eminence but they are all involved in the world of high technology. Bethesda Research Laboratories is involved in genetic engineering, molecular diagnostics and instrumentation; Cambridge Mass Spectrometry in electromagnetic radiation test instruments; Laser Scan Laboratories, the first tenant in laser deflection technology; Intervet Laboratories in veterinary vaccines; Optonics in fibre-optics communication systems; and Ultra-Violet Products in ultra-violet light sources.

Mr John Littlechild, who with his brother David runs Nobelight, which produces high-speed giant flashlamps, says that "what we are doing is always pushing the frontiers back. We do not always know why something happens but we know it is new and it has advanced implications and through our links with the university we will find the theoretical base for our work." Nobelight hopes to be in a purpose-built building on phase three of the park by the end of this year. Purpose-built buildings are the exception rather than the rule. Cambridge Consultants, the largest firm so far with a staff of 140, half holding doctorates, bought the land and put up its own building, as has Napp. Nobelight will be only the third to follow this course. The more usual system is for a company to take a 25-year lease and pay a rent to Trinity, though because of financial

constraints the college would be only too happy if others were to buy in it or would bring in cash to meet the development costs which have been estimated at some £3m. All of this has been found by the college from its own resources.

The park has one disadvantage, as Dr Bradfield is the first to admit, because of its location some five miles from the college and the university laboratories. "It is not ideal having this distance separating us but it is simply impossible to an old college university town like Cambridge to find the space. Never universities may be able to do so but the way was not even an option for us. "Even if this is a disadvantage, there are other advantages to being here. It seems that setting up a business in Cambridge, with the university's unrivalled facilities on hand, makes it relatively easy to raise finance. So somebody with an idea can get a flying start here."

That start takes place in surroundings which can compare with the best that America offers. For every five square feet of space in the park one is given to roads and other services, one to the central amenity area and three to the company's plot. The plot itself must comprise one square foot of building space and two of surrounding landscaping.

## Involvement

The other weakness, Dr Bradfield feels, and this is common to all the British science parks, is that there is too little interface between company boards and academics. "Not many companies have invited people involved in university life, particularly research, to join their boards. More's the pity. In the U.S. there is a close involvement and I think both industry and university there gain from it."

As a small step Trinity is sponsoring a scheme by which a company will take on a member of staff who will spend half his time with the company and half with a department of the university. The person will be on the staff of the company but Trinity will find half the salary. The first two appointments by the start of the academic term next October. It is also looking to the provision of a central building where those employed on the park can come together, either formally or informally, and so not only contribute to an esprit de corps but also perhaps contribute their knowledge to each other. Such a centre will be the third to follow this course, the colleges but who knows what history, after, say, four or five centuries will make of the idea?

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**BIRCHWOOD SCIENCE PARK** Warrington, Cheshire

Ian Hamilton-Fazey tells how an old university building has been given fresh life

## Innovation centre forms Merseyside link

IN THE 50 years since Sir James Chadwick discovered the neutron and won a Nobel Prize, Merseyside has suffered a cyclic decline. Now, in the very building where Chadwick housed his cyclotron, people are fighting back. Their philosophy is simple; regeneration through innovation.

Liverpool University's old physics building was about to be demolished when the idea was mooted in 1981 for a Merseyside Innovation Centre. The land it stood on had been bought by the Roman Catholic Church for the processional way to its new cathedral but the Church agreed to wait 20 years so that the building could get to work again.

An innovation centre is another way of linking academia with the commercial world. Like the science park, its fundamental currency is ideas. Merseyside's innovation centre there are similar ones in London and Hull—is already demonstrating how the concept works. Traffic in ideas is two-way—from academia to commerce and vice versa. On Merseyside academia includes the university and Liverpool Polytechnic, with both institutions contributing resources and access to a network of specialists. Cash funding has come from Merseyside County Council, the Inner City Partnership and the Department of Industry, with the county providing £96,000 of running costs totalling nearly £160,000 a year.

Mr Michael Shaw, a former chemist and agriculturalist, markets the centre to industry and commerce as a professional technical consultancy, in effect

acting as agent for the academics in university or polytechnic who wish to participate. So far the centre has carried out 17 projects on this basis, at an average fee of £500 each.

## Catalytic

The centre also has nearly 10,000 sq ft of space available for new infant companies, each with a high technology base, which can benefit from being in Liverpool's city centre campus. This is seen as the centre's aursary function, encouraging growth until the companies are strong enough to move out.

Six companies—the first batch—are about to move in. They cover the fields of computing, alternative engineering for the Third World, irrigation pumps, computer graphics, biotechnology, robot voice synthesis and independent design. The centre, which has seven full-time staff, is also active in its own right and has deliberately set out to achieve excellence in computing, biosciences and robotics, areas where it hopes to sprout its own companies eventually. Here its catalytic value soon becomes apparent.

In computing, for example, it has access to four mainframe machines and a host of specialists. Its training programmes are for people in industry with computing experience whose minds can be opened to advanced technology. Its consultancy services are designed to guide industrial buyers through today's jungle of promotional messages from manufacturers. There are 23 academics from

university and polytechnic involved in robotics and the centre is the regional consultancy for the Government's robotics programme. The plan is to design robots for local industry on a fee per project basis.

In biosciences, however, developments have been stymied so far by funding difficulties. The centre wants to bring about the commercial development of monoclonal antibodies for use in human diagnosis but venture capitalists have so far been unwilling to take the risks involved, especially since pay-back could be years away.

Nevertheless, the centre—which was little more than an idea itself only 18 months ago—is developing with impressive speed. It has been easier to set up than most science parks and has not required large public works or capital programmes. Since it has only drawn resources from its immediate environs—where it will also do most of its work—similar innovation centres could probably be repeated in other cities with little risk of wasteful duplication. However, it is unlikely to fulfil one hope of its backers—that inventors would be able to walk in off the street and find a way to develop their ideas. "Everyone like that has either been a maverick or reinventing the wheel," Mr Shaw says. "Like the man who had the idea of a cream that men could rub on the face to stop whiskers growing. 'What's the grama?' asked the man at the innovation centre. 'Oh, I haven't got the cream,' came the reply. 'I've just brought you the idea. Your job's to work out how to do it.'"

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- 3 Where is Britain's National Museum of Photography, Film and Television being established?
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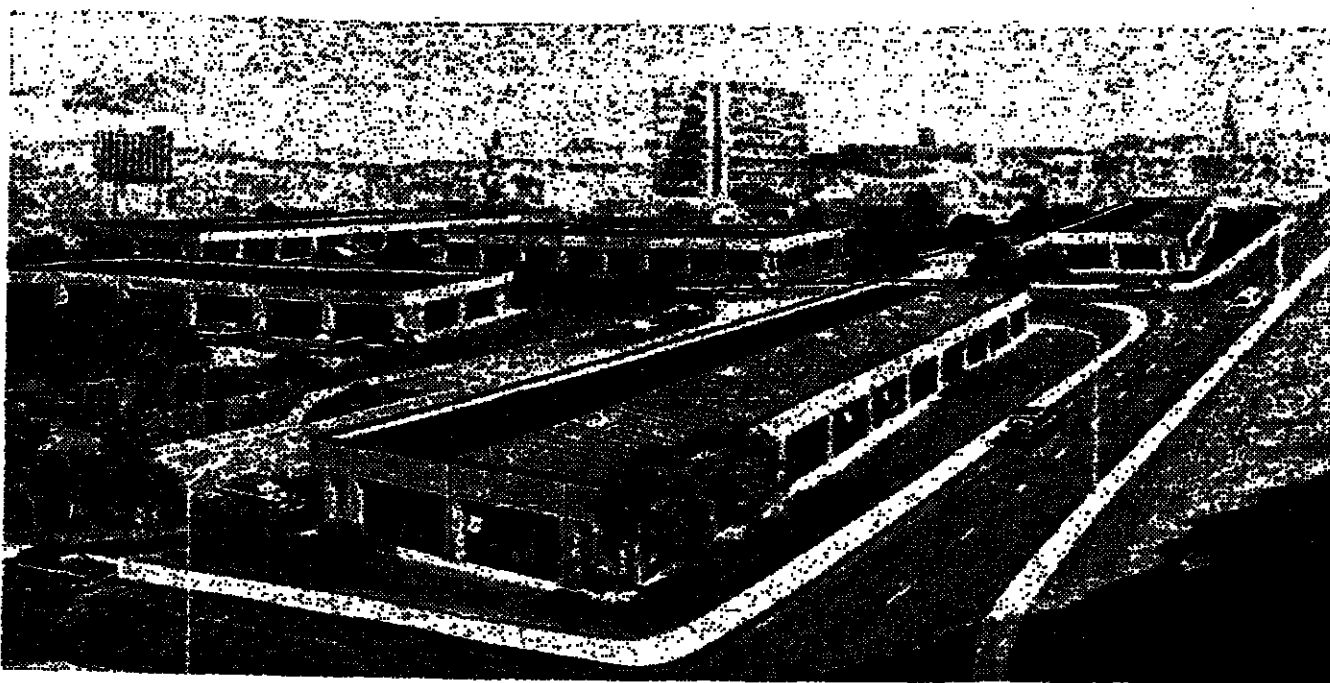


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## SCIENCE PARKS V



Artist's impression of the proposed Listerhills high technology development in Bradford

Mark Meredith reports on aims north of the Border

## Scotland sees attraction for new industries

THE CONCEPT of science parks fits in well with development plans for new industrial bases in Scotland. High-technology industries are being actively promoted to help replace the declining heavy engineering sector and despite the recession the fruits are starting to show. The electronics industry alone, for instance, accounts for about 40,000 jobs in over 200 companies.

Scotland has six science, research or high-tech parks, with another at St Andrews University, planned—although the purists would only see two or three as science parks in the true sense of the word.

The parks which come closest to the "pure" criterion are Heriot-Watt Research Park in Edinburgh and those in Glasgow and Aberdeen which have the active involvement of the Scottish Development Agency (SDA).

Heriot-Watt University claims that its park is the only one on a campus site in Europe. The 50-acre site has a strong emphasis on applied research, especially in the manufacture of prototypes and small batches. Among its tenants are Syntex Pharmaceuticals—which has invested £7m in its research centre there employing 100 people—Computer Application Services, Edinburgh Instruments and Micromedex.

Dr Tom Johnston, principal of the university, says that the University Grants Committee realises the potential of the park and he is anxious to build it up as quickly as feasible.

The importance of the park lies in the fact that no manufacturing can take place and, unlike Trinity, Cambridge, land is available only for lease.

In return, the scientists and other workers have access to all the university's facilities.

The long-range economic planning of the SDA is not only to promote the science parks to help launch new high technology companies but to provide follow-up facilities as well which would see good ideas taken from their research and development phase in the science parks on to other "parks" such as the technology park planned for Dundee, where projects can be brought into commercial production.

Buildings are already on site in the first phase of the West of Scotland science park in Glasgow. Ultimately the site will offer 180,000-sq ft of floorspace. The cost will be something in the order of £6m and the project could create 500 jobs.

**Priority**  
Planners acknowledge that job creation at this level is not a key priority—that should come later as ideas reach the manufacturing stage.

The West of Scotland park combines the resources of the city's two universities, Glasgow and Strathclyde, in the one park. Both have considerable strengths in the field of high technology. Dr George Mathew, chief executive of the SDA, has said that the park could help counter the brain drain and provide a spin-off of local technical ingenuity into new and seedling companies as well as into existing manufacturing companies seeking new products and technology.

One feature of the parks—as elsewhere—is close attention to a good environment. This is achieved by the siting of laboratory units in the West of

Scotland's science park have been planned to blend in with the time of trees at the parkland site in Glasgow's north-west Bearsden area.

It is expected that demand for science park accommodation could come from companies in electronics, advanced optics, instrumentation and biosciences, high-technology manufacturing, specialist chemicals and precision engineering.

The development manager for the park has already received inquiries from companies in a number of these fields. The SDA will have a special innovation fund for science park projects to provide extra risk capital for small-scale projects with commercial potential.

Further financial development could involve equity investment by the SDA, which also actively encourages joint venture and direct participation by the private sector.

The £2m project at Aberdeen is attached to the university. Planning permission has been sought to develop a 55-acre site on the River Don. The park's orientation will be towards the city's oil and gas industries, although it is also hoped that the non-oil sector industries traditional to the area, such as textiles and paper, will also be encouraged.

Elsewhere in Scotland, Stirling University's plans for a science park came into prominence with an announcement by the Wang Corporation that it was investing £28m in an office automation factory on the site and Livingston has set aside 25 acres for the development of high-technology concerns. St Andrews University is to lease a small plot to the SDA for high-technology development.

## Incomer finds helpful base

ONE OF the unexpected benefits a small energy management company has derived from its move to the Cambridge Science Park is in the area of marketing.

The managing director of the company, Freeman Enercon, is Dr Evan English, himself a Cambridge graduate, who admits that the move two years ago was a gamble in view of the considerable additional cost of the 5,000 sq ft premises the company occupies.

The company moved there in early 1981, when it was at an early stage of its growth, but as part of the Freeman Group of companies it enjoyed considerable security. The cost of the premises was around 50 per cent more than a comparable building elsewhere. The formalities of proving that the company was suitable for the site were also intense but in the event worthwhile, Dr English said.

## Credibility

For a medium-technology company which is part of a fairly conventional building and building products group, it was necessary for Freeman Enercon to gain credibility in its own field, namely energy management.

Dr English said that the science park's high reputation had therefore been helpful in associating the company with higher technology work and had also persuaded people within the company that management took its prospects for growth very seriously.

Links with the university have tended to be informal, he added, though none-the-less effective, resulting in the appointment of staff from the engineering department and part-time work being carried out on a consultancy basis.

Contacts with other companies on the site have also been useful, particularly in the field of micro-electronics, giving Enercon an insight into areas of work it will be concerned with in perhaps two to three years, but Dr English believes there is room for more interaction.

Our contacts with other companies tend to be intermittent, but there are plans to build a meeting centre on the site, which should help to improve the position. Enercon's main area of activity has been the provision of energy management systems to deal with dispersed buildings with intermittent patterns, such as schools. "On such sites waste is often caused not by wrong design or defective controllers, but by the demands on busy street day-to-day change of the system," the company said.

The basis of the Xyntax system developed by Enercon to meet this problem is a microcomputer which uses the public telephone network to a central control point. "A Xyntax controller automatically calls up its associated computer to feed it information and receive instructions. By examining the records the user can evaluate the status of each outstation and make decisions from his office desk," Enercon said.

It is also possible to feed other information to the central computer via the telephone line and Xyntax can also be used for security monitoring, financial data transfer and time recording.

Enercon's turnover last year was around £750,000 and is expected to rise to £1m in 1983. Software is now the company's main area of development but new products are also being developed which will justify the company's location, since outside expertise will be needed for at least another five years, Dr English said.

Lorne Barling

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Alan Cane discusses Southampton University's scheme

## Strict planning conditions

SOUTHAMPTON UNIVERSITY is tackling the creation of its science park in a rather different manner from that of other universities. First, it refuses to use the name science park on the grounds that the term is becoming devalued. Instead the 27 acres or so of land around Chilwell Manor, eight to 10 miles from the main campus, will be known as the Centre for Advanced Technology.

If the university can get the necessary planning permission, "This is our chief problem" says Professor John Large, Dean of the university's Faculty of Engineering and the driving force behind the development of the centre.

"Our site is in the middle of the most affluent part of the whole area and the local residents are extremely resistant. It so happens that three different authorities have an interest, the city (which perhaps is suspected of being big business), the university and the Test Valley Authority."

They are setting very stiff conditions and they are absolutely insistent that no manufacturing should take place on

the site. "We have another meeting with the Test Valley soon and I am very hopeful that the necessary planning permission will be given."

What Professor Large is hoping to establish is a centre which grows from within the university rather than by companies moving in from outside—"although we would not turn them away."

## Installed

The first company, Stewart Hughes, is already installed in Chilwell Manor House and Professor Large believes he has enough prospective tenants to make the first phase of the centre's development economically viable. The university is being advised by Richard Ellis, the estate agents and development consultants.

The university already has a sound tradition of consultation with industry through consultancies established in each department. That was initiated with the help of a grant from the Wolfson Foundation. Now some of the departmental consultancies are as many as eight-

strong, with international reputations. So the university is looking for companies that will bring benefit to the university—either through a base in university research or in university services.

Stewart Hughes is very much a model of the kind of company Professor Large wants to see established on the site. It was set up by students from the Institute of Sound and Vibration (of which Professor Large used to be director) at the university and it makes devices—black boxes—to detect the difference between healthy and sick machinery.

Prototypes are made on site. Production runs would be contacted outside the centre and the whole enterprise is based in high technology and collaboration between the university and the company.

The IBM Hurley laboratory is in the area and Professor Large believes IBM research staff might be encouraged to go it alone and establish their own companies in the centre along the lines of Silicon Valley in the U.S.

There will be no subsidies. The university is contributing between £2m and £3m in the form of the site and rents from the first tenants will underpin the finances for the first phase.

Professor Large says: "We are different because we are small, because we are anxious not to be swamped by large enterprises—although we are perfectly prepared to talk to companies of that sort—and because we want to be self-generating."

The kind of companies that will fit best into the centre are microelectronic engineers and software specialists. The parish council should find that acceptable, Professor Large hopes.

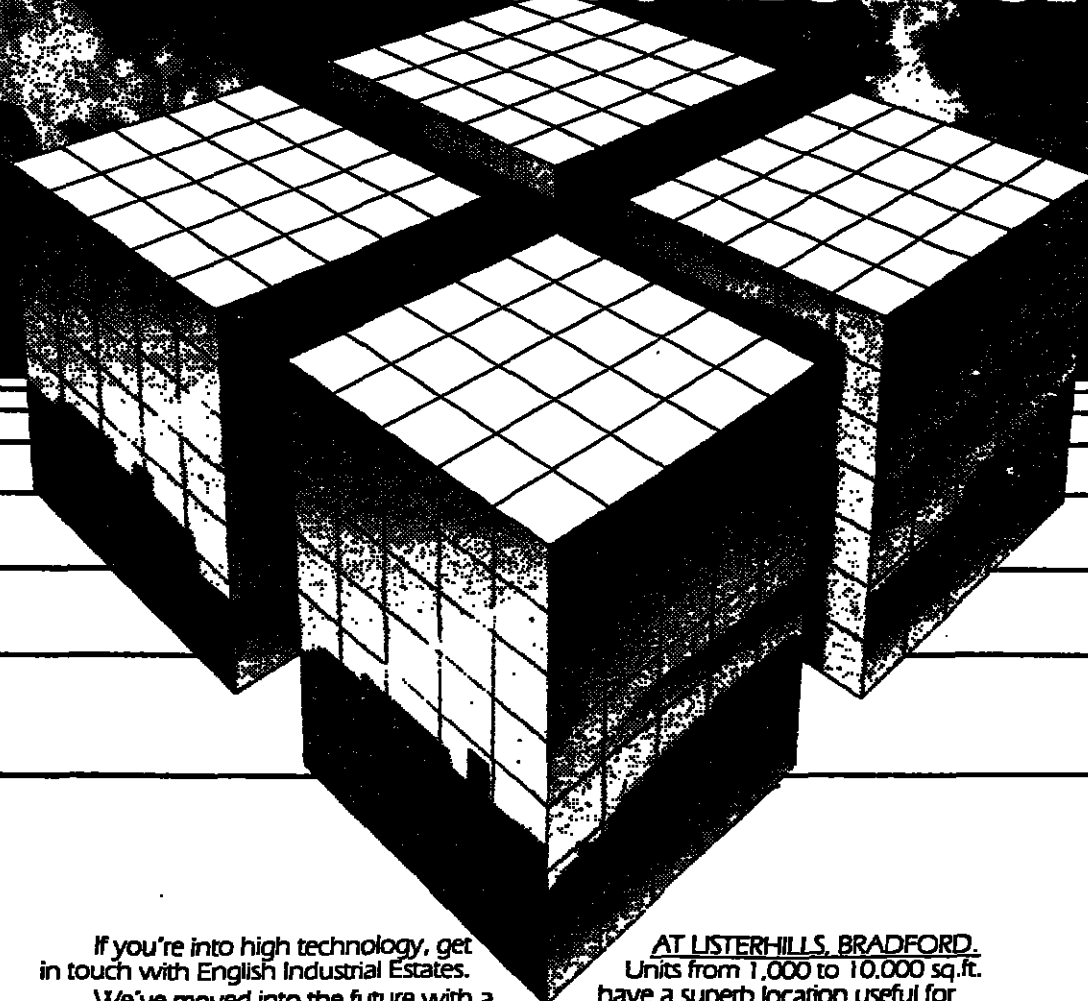
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## SCIENCE PARK

Plans for a science park at Brunel are well advanced. Although Brunel already works in close co-operation with industry, and in particular with local firms, it considers that a science park will bring further benefits to both the firms involved and the University. Much interest has already been shown from firms recognising the assets of Brunel, its academic reputation, its enterprise, its experience of industrial co-operation, and its convenient location (16 miles from the centre of London, close to Heathrow and the M4).

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Studies to establish the criteria of success for science parks name the main factors—location, facilities and communications

## Providing the customer with what he wants

FOR ALL the brave words of their sponsors not all of Britain's science parks are likely to be a success. Some will be in the wrong place or have the wrong facilities, while others may simply find that — unlike in the U.S. — Britain is not a prolific enough generator of entrepreneurs with ideas that can quickly be turned into commercial products.

Various studies have been carried out by consultants, estate agents and property developers into the science park phenomenon and their findings strongly suggest three main factors will be at the heart of those that do work — location, facilities and links.

● Closeness to the relevant market was identified as the most important consideration by a group of Canadian high technology companies looking to invest in Britain, followed by proximity to a pool of specialist labour, according to a survey conducted by James Williams of chartered surveyors Drivers Jonas.

● Proximity to an international airport was also rated as very important because of the world-wide nature of the market served by many high technology companies, and the need for senior personnel to be able to move about easily between plants in various countries. This explains the strong preference shown by many high technology developments for a location in the Thames Valley near Heathrow Airport, though where a mainly manufacturing as opposed to research establishment is planned, companies are willing to look at other areas.

### Environment

● A pleasant residential and working environment also scored a very high rating, with the availability of university support and of regional grants perhaps surprisingly not being regarded as overwhelmingly important. "The more the operation is research and development orientated the more important will be direct contact with universities. Conversely selective regional financial assistance may be of little importance. On the other hand where an activity is more geared towards productive processes, then financial assistance can be important," the Drivers Jonas report notes.

● The facilities which are needed in a successful science park include, according to Peter Cropton of the Warminster-based consultancy Business Environments, a

reasonably large overall site of possibly 50 acres or more. "There is a domino effect. Companies want to go where they know other companies are doing well so that they can draw on the same pool of labour," he says.

● High technology companies moving into new estates would expect to find a high environmental standard externally and a low overall building density — generally not much more than 30 per cent. The type of space they will be looking for will be flexible as to uses. Space which this year is being used for research and development will need to be capable of being converted next year possibly to offices or manufacturing.

### Lay-outs

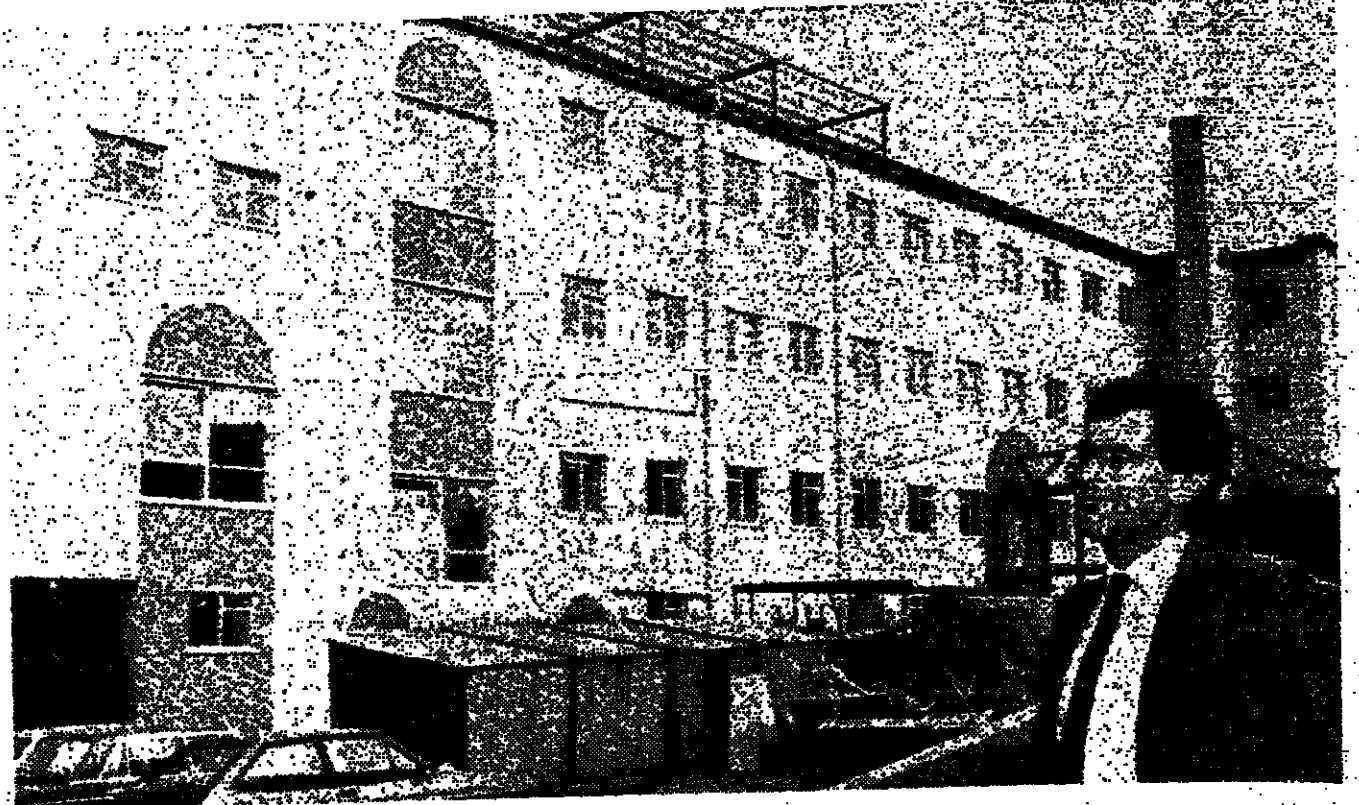
● The internal environment will also have to match the high standards required externally. Impersonal factory lay-outs common to older industrial processes need to be replaced with near-office working conditions capable of attracting highly skilled employees and suited to the highly precise operations they carry out. More leisure facilities also have to be incorporated into work places to reflect the trend towards a blurring in the distinction between work and leisure, a report by chartered surveyors Herring Son & Daw points out.

"The electronic industry is creating a social revolution in which the man in blue overalls with oily rags is disappearing and the white collar worker is migrating to the work bench as a 'boffin' preparing special circuitry. Changes in work organisation in this way will inevitably affect building design," notes Nick Owen of Herring, Son & Daw.

Just how many science parks are likely to be able to meet these specifications remains to be seen. One important point that emerges from the various studies, however, is that success is most likely to result from collaboration between interested parties — the landowner, the academic institution, the finance institution and — equally important — the local authority, which is likely to have a crucial role to play in determining just how flexibly sites can be developed.

The ultimate test remains whether the science or high technology park provides the customer with what he wants and needs. Those that do will work, while those that do not are likely to have to struggle.

## SCIENCE PARKS VI



Mr Ian Herman, the recently appointed managing director of Birmingham Technology, outside its office and starter units. The company, set up jointly by Birmingham City Council, Aston University and Lloyd's Bank, administers the Aston Science Park in the heart of the city. The park provides flexible accommodation for small firms and research and development laboratories in an attractive environment as well as full supporting business services, including access to venture capital.

Mr Herman, who is 36, was recruited from the U.S. company Schlegel where he was chairman and managing director of its Leeds-based UK subsidiary. "We are involved in this country's second industrial revolution as we strive to create the prosperity of the future. The whole nation is going through a painful transition from the traditional metal-based businesses of the first industrial revolution to the high technology industry of the second."

Lorne Barling looks at an emergent science park—at Warwick University

## High hopes aroused among West Midland industries

WARWICK UNIVERSITY'S Science Park, on which the first building (funded by Barclays Bank) is due to be completed in October, is the focus of high hopes by the West Midlands industrial community and has a wide range of support.

It is felt by many that science parks are long overdue in an area where academic excellence and industrial decline have existed side-by-side for many years, and the strongly favourable response to Warwick's scheme appears to bear this out.

The university's policy on the development of the 24-acre site, which adjoins the campus, is that it should be based on "centres of excellence" within the academic community, making it a real melting pot of ideas and practical work.

The most important of these centres is the engineering department, which is recognised as one of the UK leaders in the field of manufacturing systems, particularly computer-aided design and manufacturing (CAD-CAM).

Professor Kumar Bhatnagar, head of manufacturing systems engineering, has already built up strong links with industry through companies such as BL, Lucas and others, thus in a sense already operating a science park concept. This has allowed graduates to implement their ideas in industry and for work at the university to be funded by the resources of companies.

Probably the most important development for the science park so far is the interest from the leading U.S. CAD-CAM company, Computervision, in setting up a film building on the site, a project now under discussion. This would bring the company to the heart of a very large potential market for its systems — West Midlands manufacturing industry — which would in turn be encouraged by the Computer-vision-Warwick link to find the right applications for new manufacturing equipment.

Another CAD-CAM company considering taking space on the site is Tangram of Daventry, a concern bought out by its management from BOC recently, which makes a range of specialised equipment within the manufacturing systems field.

Potential investment on the site on behalf of high technology companies considering setting up there is now around £3.5m, mainly in new buildings. This includes £1m which the West Midlands County Council is considering investing in new premises to be let to companies. A high level of interest has come from consultants in manufacturing systems, while the level of inquiries from suitable companies in other areas has also been strong, according to Mr David Rowe, director of the park.

An example of the initiative on campus is the establishment of a company called Orbec to develop instrumentation for work in this area, which has the support of ICF's Technology Development Corporation. The university will hold an equity stake in the new company.

Mr Rowe said there appeared to be little difficulty in finding enough companies for the science park, thanks partly to the links which already exist between academic staff and companies in suitable sectors of industry.

"We are marketing the site in a directed fashion, going straight to companies which are likely to be interested. Only occasionally do we get inquiries from companies which are totally inappropriate," he said.

It is envisaged that academic staff may become quite closely involved with companies on the site, as has happened at science parks in the U.S., and that they should not form consultancy arrangements with them, Mr Rowe said.

### Science parks around Britain

Name of park, location and telephone number	Date of establishment	Area	Range of unit sizes	Links with outside institutions	Number of companies	Specialities	Manager/contact	Grants available
Aston Science Park, University of Aston, Birmingham City Council Tel. 021-359 0981	1982	27 acres	300 sq ft upwards	University of Aston, Birmingham City Council	1	Chemical Engineering, Pharmacology, Tribology, Ergonomics, Microprocessors	Ian M. Herman, Birmingham Technology	Venture fund facilities
Birchwood Science Park, Warrington Tel. 0925-51144	1973	70 acres	400 sq ft-50,000 sq ft	None	22	None	Colin Corley	None
Brunel University Science Park, Uxbridge Tel. 0884-37188	Not yet established	—	750 sq ft-5,000 sq ft	—	None	High technology fields	—	None
Cambridge Science Park, Cambridge Tel. 0223-358201	1970	120 acres	1,300 sq ft-122,000 sq ft	Cambridge University + Trinity College	25	Bio-technology, Laser Technology, Micro-computers, Micro-circuits, Pharmaceuticals, Contract research instruments	Dr John Bradfield, John Twiddle, university laboratories	Part support awards for joint work with university laboratories
Heriot-Watt Research Park, Riccarton, Edinburgh Tel. 031-225 9432	1972	27 acres with 28 acres for further expansion	500 sq ft-600 sq ft also custom building	Heriot-Watt University	7	Electronic and computer technology, Offshore engineering and biotechnology	I. G. Dalton, Unilink	Scottish Development Agency assistance
Hull Innovation Centre, Hull Tel. 0482 226348	1981	2,500 sq ft in one building	26 workrooms vary from 150 sq ft-450 sq ft	Hull University/ Polytechnic	16 plus 5 waiting to come in	Technological support for new and developing firms	Dr W. K. Donaldson	Inner cities grants and Enterprise Services Commission schemes
Literhills High Technology Unit, Bradford Tel. 0274-732466	Due for completion 1983	42,000 sq ft	1,048 sq ft-10,000 sq ft	University of Bradford	None	High technology, Electrical engineering	Lawrence West	Intermediate area assistance and city council aid
Lynch Wood, Peterborough Tel. 0732-88931	Due to open early 1983	116 acres	Sites in multiples of 1 acre	Cambridge University and Peterborough Development Corporation	None	R. and D., High technology production, Administration HQ	Chief Estates Surveyor, Peterborough Development Corporation	None
Merseyside Innovation Centre, Liverpool Tel. 051-7080123	1981	9,500 sq ft in one building	400 sq ft-1,400 sq ft	Liverpool University/ Liverpool Poly. Merseyside CC	7	Bio-technology	Dr Jakubovic	Special development area and local authority assistance
Peel Park, East Kilbride Tel. 03552	Due for completion end 1983	68 acres	1-15 acre sites for custom-built facilities	East Kilbride Development Corporation	None	High technology manufacturing	East Kilbride Development Corporation	Special development area assistance
City of Salford Science Park, Salford Tel. 061-794 4711	1980	8 acres	—	University of Salford/ Salford College of Technology	4	All	Professor E. Walkden	Enterprise zone incentives, Inner Urban Area Act 1978 incentives
University of Warwick Science Park, Warwick Tel. 0203-24011 x 2770	Due for completion October 1983	24 acres with option for expansion	Units up to 15,000 sq ft. Plots from 1 acre for self development	University of Warwick, Coventry City Council, West Midlands CC and Warwickshire CC	None	—	Mr David Rowe	West Midlands CC loan scheme, Coventry CC financial assistance scheme
Upton Science Park, Merseyside Tel. 051-438 7070 x 376	Not yet announced	50 acres	2,500 sq ft-16,000 sq ft	Liverpool University	None	Not yet announced	Mr John Thompson	Special development area grants
West of Scotland Science Park, Glasgow Tel. 041-248 2700	Due for first occupation September	170 acres and possible expansion	900 sq ft-14,000 sq ft. Larger units later	Joint venture between Glasgow and Strathclyde Universities	None	Bio-technology, Drug and vaccine development, Electronics, Laser Technology, Polymer chemistry	Dr Colin Bond	Special development area grants Special innovation fund

### SCIENCE PARKS STILL AT THE PLANNING STAGE

Oxford University; Stirling University; Surrey University; Southampton University; Dundee Technology Park; Fiessey, Liverpool; Lancaster University; Northampton; Berkshire; Swansea; Bristol; London Industrial Centre; St Andrews University; South Bank Technopark; London; Highfields Science Park, Nottingham. Research: Sue Hopkins.